

Preventing Communicable Diseases

The twentieth century has seen extraordinary progress in the fight against infectious diseases also known as communicable diseases. Notable advances such as the eradication of smallpox and the discovery of penicillin, antimicrobial drugs, and the development and use of vaccines have been realized. Despite these noteworthy gains in modern disease prevention, some of society's practices still cause and spread many preventable illnesses and death. Overcrowding in our cities, rural migrant camps, homelessness, the increasing use of day care centers and nursing homes, and unsafe sexual practices are examples of a few instances where communicable disease could be better controlled through good hygiene, proper handling of food and water, and basic disease prevention education.

The *Code of Virginia* mandates the reporting and control of diseases. Specifically, Section 32.1-35 of the Health Laws of Virginia directs the Board of Health to promulgate regulations specifying which diseases occurring in the Commonwealth are to be reportable and the method by which they are to be reported. Section 32.1-36 requires every physician practicing in the Commonwealth and every director of any laboratory doing business in the Commonwealth to report any disease that the Board of Health designates as reportable. Section 3.1 of the Board of Health Regulations for Disease Reporting and Control specifies those diseases, toxic effects, conditions that need to be reported, and the manner in which they are to be reported. Section 3.2 specifies those individual(s) who are required to report.

There are 66 reportable communicable diseases in Virginia as seen on the following page. The health department receives reports from physicians, directors of medical care facilities, and directors of laboratories. In 1996, a total of 297 communicable diseases were reported to the five local health departments in the New River Health District for investigation and appropriate follow-up. The top five communicable disease issues in the District are immunizations, sexually transmitted diseases, foodborne illnesses, tuberculosis, and influenza and pneumococcal disease.

Without local reporting of disease, the State has no surveillance information. Unfortunately, many physicians and health professionals do not report relevant infectious diseases. The numbers of reports that are received in local health departments strongly suggest under-reporting of communicable disease activity. Health professionals have a fundamental responsibility with regard to the prevention of infectious diseases. Health professionals must recognize infectious diseases and report notifiable diseases to the public health authorities. The health department's efforts in controlling these communicable diseases are hampered when health professionals fail to report. Diligent and conscientious reporting can significantly reduce the risk of transmission of infectious diseases. Conversely, a lack of reporting can significantly increase the risk of transmission of infectious diseases.

Health regulations for disease reporting are designed to enhance and promote uniform reporting of diseases that are of public health importance. These regulations ensure that appropriate control measures may be instituted to interrupt the transmission of disease. Additionally, the local health director is responsible for the surveillance and investigation of those diseases specified by these regulations which occur in his or her jurisdiction. The health director is also responsible for instituting measures for disease control, which may include recommendations for quarantine or isolation for purposes of observation or treatment. Public health personnel are caretakers of health and have a duty and legal responsibility to control infectious disease. This includes contact tracing, follow-up, and treatment for infectious diseases such as HIV/AIDS, syphilis, gonorrhea, and tuberculosis.

Reportable Diseases
Virginia
1997

Acquired immunodeficiency syndrome (AIDS)	Listeriosis
Amebiasis	Lyme disease
Anthrax	Lymphogranuloma venereum
Arboviral infections	Malaria
Aseptic meningitis	Measles (Rubeola)
Bacterial meningitis (specify etiology)	Meningococcal infections
Botulism	Mumps
Brucellosis	Nosocomial outbreaks
<i>Campylobacter</i> infections (excluding <i>C. pylori</i>)	Occupational illnesses
Chancroid	Ophthalmia neonatorum
Chickenpox	Pertussis (Whooping cough)
<i>Chlamydia trachomatis</i> infections	Phenylketonuria (PKU)
Congenital rubella syndrome	Plague
Diphtheria	Poliomyelitis
Encephalitis	Psittacosis
primary (specify etiology)	Q fever
post-infectious	Rabies in animals
Foodborne outbreaks	Rabies in man
Giardiasis	Rabies treatment, post-exposure
Gonorrhea	Reye syndrome
Granuloma inguinale	Rocky Mountain spotted fever
<i>Haemophilus influenzae</i> infections, invasive	Rubella (German Measles)
Hepatitis	Salmonellosis
A	Shigellosis
B	Smallpox
Non-A Non-B	Syphilis
Unspecified	Tetanus
Histoplasmosis	Toxic shock syndrome
Human immunodeficiency virus (HIV) infection	Toxic substance related illnesses
Influenza	Trichinosis
Kawasaki syndrome	Tuberculosis
Lead-elevated levels in children	Tularemia
Legionellosis	Typhoid fever
Leprosy	Typhus, flea-borne
Leptospirosis	<i>Vibrio</i> infections, including cholera
	Waterborne outbreaks
	Yellow fever

Infectious diseases are a major public health problem and remain the leading cause of death worldwide. Of the nearly 52 million deaths in the world each year, infectious diseases account for more than 17 million of these deaths--or one in three. While infectious diseases are the leading cause of death among children, people of all ages, races, and socio-economic groups have the potential of developing a vaccine-preventable or other communicable disease.

Over the past century, the profile of disease has changed dramatically. New infectious organisms are emerging. Emerging infectious diseases are those that have appeared in a population within the past two decades or threaten to increase in the near future. "New" infectious diseases can emerge from genetic changes in existing organisms and appear suddenly in new populations. At least 30 new disease agents have been identified over the past two decades and new agents are being added regularly. These emerging diseases include AIDS, Ebola infection, *Escherichia coli* bacteria, Hepatitis C, Hantavirus, Lyme disease, and Legionnaires' disease. During the fall of 1996, the New River Health District accounted for 23 of the 54 reported cases of Legionnaires' disease (legionellosis) in Virginia. This waterborne outbreak--the first documented outbreak in Virginia--resulted in two deaths, and the source was traced to a whirlpool spa displayed in a home improvement center. This outbreak of Legionnaires' disease is believed to be the first documented outbreak of legionellosis associated with a whirlpool spa used for display purposes only. Based on the findings of this investigation, The Centers for Disease Control and Prevention (CDC) modified and developed guidelines regarding use of land-based whirlpool spas, including those that are being operated while on display. Legionnaires' disease is a reportable disease in Virginia; and this outbreak exemplified how prompt reporting, investigation, treatment, and education can minimize the magnitude of an epidemic in a community.

Once thought to be on the verge of being eliminated as a public health problem, many infectious diseases are making a deadly comeback. Termed "re-emerging infectious diseases," these are illnesses from well-understood microorganisms that were once under control but are now resistant to common antimicrobial drugs or have gained new footholds in society. These re-emerging diseases include malaria, meningitis, and drug resistant tuberculosis and gonorrhea.

Public health ensures that all relevant infectious diseases are reported and that proper procedures are in place for prompt and appropriate responses that help to control the spread of disease. Investigation, prophylactic treatment, and intense public education, as well as the excellent cooperation of the medical community to report disease are imperative in minimizing the transmission of infection and reducing the incidence of communicable disease to normal levels.

Immunization Levels of Two-Year-Olds

Objective: Increase the basic immunization series among children age 2 years to at least 90%.

The goal of childhood disease prevention is to reduce the incidence of disease through age-appropriate vaccination. Immunizations remain the most cost-effective way to prevent illness and disease in large populations.

More than 90,000 children are born each year in Virginia, and 80% - 90% receive one or more vaccines. Immunization laws mandate that children are adequately immunized by preschool and/or kindergarten level; however, only about three out of every four children complete the basic vaccination series by age two, a critical period for childhood disease prevention. Children are considered appropriately immunized if they receive these inoculation dosages by age two:

- 3 Hep B (hepatitis B);
- 4 DTaP (diphtheria, tetanus, acellular pertussis);
- 4 Hib (*Haemophilus influenza* type B);
- 3 Poliovirus (2 inactivated poliovirus vaccines, IPV; followed by 1 oral poliovirus vaccine, OPV); and
- 1 MMR (measles, mumps, rubella).

In 1996, a random selection of 2,619 immunization records were reviewed across the State by the Division of Immunization, Virginia Department of Health. Ninety-eight percent (98%) of school enterers had the required number of doses of DPT, OPV, and MMR; however, only 64% of these children had the recommended doses of DPT, OPV, and MMR by their second birthday. In 1995, the New River Health District conducted a retrospective survey of immunization levels among two-year-olds throughout the New River Health District. A total of 307 immunization records were reviewed in the five health departments. The records revealed that an average of 58.3% (179) children had the recommended series of DPT, OPV, and MMR by their second birthday. The rates varied among the health departments in the District in 1995. Floyd County had the highest immunization levels with 76.8%, and Radford City had the lowest immunization levels with 39.1%, followed by Giles County with 67.7%, Pulaski County with 58.5%, and Montgomery County with 53.7%. Although there are drawbacks to this type of study, it gives an opportunity to look at immunization records and determine when children are immunized. This information can also be used to determine the age when many children tend to lack age-appropriate immunizations.

Clearly, the New River Health District, Virginia, and the United States must improve the basic immunization status of two-year-olds to meet the Year 2000 Objective. Overall, there has been a major reduction and elimination of many childhood illnesses in Virginia. As a result of successful immunization practices in Virginia, no cases of measles were reported among its residents for 1996; and there have been no cases of rubella among children in Virginia since 1990; however, one adult male and female were reported with rubella in Virginia during 1996. Virginia reported 19 cases of mumps in 1996, but no locality in the New River Health District reported an occurrence of mumps during this same time period. The last case of diphtheria in Virginia was reported in 1989, and no cases of tetanus have been reported in Virginia since 1994 when there were two cases. Overall, Virginia had 108 cases of pertussis in 1996 compared to 31 cases in 1995. The New River Health District had no reported cases of pertussis for 1996.

The national and statewide immunization campaign against childhood diseases has also resulted in an increase in the use of vaccine to protect infants and children from *Haemophilus influenza* type B infection. This infection is the most common cause of bacterial meningitis among children. This effort has contributed to the decline of this disease in children under five years of age.

The number of reported cases of varicella (chickenpox) decreased in the New River Health District from 33 cases reported in 1995 to nine cases in 1996 which corresponds to a rate of 5.8 per 100,000 population. Floyd, Giles, and Pulaski counties had no reported cases of chickenpox in 1996, whereas Radford City, with a rate of 18.6 per 100,000 population, reported three cases; and Montgomery County had a rate of 7.9 and reported six cases. It is important to note that the localities in Virginia reporting chickenpox had decreased numbers for the fourth consecutive year, and this is due, in part, to two factors. First, as the use of the varicella vaccine increases, it is expected that the incidence of this disease will continue to be dramatically reduced. Second, it is known that the numbers of cases of chickenpox continue to be grossly under-reported by the community and health care providers.

Reduction in the incidence of infectious diseases is the most significant public health achievement of the past 100 years. In order for the New River Health District to reach the Year 2000 Objective, the immunization status of young children must be routinely assessed and assurance that vaccines are readily available must be maintained. All five health departments in the New River Health District provide free childhood immunizations. Children also have an opportunity to receive immunizations through primary care providers. The Virginia Department of Health is also working toward a statewide tracking system that will enable private and public clinics to link and have access to the vaccination records of children throughout Virginia. Finally, education is essential in preventing the spread of communicable diseases. The New River Health District has entered into partnerships with companies and organizations such as retail and food service establishments, civic clubs, and pharmaceutical companies. These partnerships seek to develop and distribute educational materials and to promote public awareness campaigns regarding childhood immunizations. Each health department sponsors childhood immunization week with mass media attention on the importance of immunizations. An immunization coalition has been established in the New River Health District with broad-based community involvement and support. This coalition coordinates local efforts to identify children who have inadequate immunization levels. Identified children would then be referred to a case manager to ensure continuity of care, follow-up with a primary care physician, and completion of required immunizations. These are only a few of the efforts and strategies that are in place to educate parents and the public about risks to children who are not immunized at appropriate ages.

What you can do:

- ❑ **Be up-to-date on your immunizations.** Make sure you and your family members, regardless of age, are adequately immunized.
- ❑ **Be aware of the immunization schedule.** If you have children or are responsible for children, post the schedule as a reminder.
- ❑ **Avoid delaying your child's immunizations.** Do not wait until your child enters school to begin immunizations!
- ❑ **Support a statewide immunization tracking system.**

Sexually Transmitted Diseases

Sexually transmitted diseases (STDs) are a major public health challenge because they can cause enormous human suffering, cost hundreds of millions of dollars, and impose huge demands on health care providers. STDs are infections spread by transfer of organisms from person to person during sexual contact. They are caused by bacteria or viruses that are spread through bodily fluids such as blood, semen, and vaginal secretions. Some STDs, such as herpes and genital warts, are spread by direct contact with infected skin. The four sexually transmitted diseases that will be discussed in this report are HIV, syphilis, gonorrhea, and chlamydia.

STDs are among the most common types of communicable diseases. At least 40 million Americans have evidence of a past STD--or one in every six Americans. In the United States, STD rates are among the highest in the industrialized world. Anyone who has sex can get an STD--men and women, bisexual, homosexual, or heterosexual, young and old.

The relationship between HIV infection and STDs is that STDs facilitate the transmission of HIV. HIV is more easily transmitted among people who have certain STDs, such as gonorrhea and syphilis. Also, genital sores and breaks in the skin caused by STDs permit HIV to enter the bloodstream more easily. The behavioral patterns that lead to infection are generally similar for HIV and other STDs, such as engaging in unprotected sexual intercourse. HIV/AIDS affects people of all geographic locations, ages, races, ethnicities, social classes, and sexual orientations.

Sexually Transmitted Diseases: Human Immunodeficiency Virus (HIV) Infection

Objective: Confine the incidence of HIV infection to no more than 11.9 per 100,000 population.

The human immunodeficiency virus (HIV) has emerged as a major sexually transmitted disease (STD), and it has risen to the top of the public health agenda. This virus may be acquired and people may be asymptomatic for 10 years. The human immunodeficiency virus (HIV) is the etiologic agent that causes Acquired Immunodeficiency Syndrome (AIDS). In 1996, HIV/AIDS was the eleventh leading cause of death in Virginia.

The population most affected by AIDS in the United States continues to be men who have sex with men (40% of all new AIDS cases in 1996). In Virginia, during 1996, men having sex with men accounted for the greatest percentage of AIDS cases (45%) followed by intravenous (IV) drug users, also a high-risk group, accounting for 21% of all new cases. Most Americans have regarded these groups as the major populations at risk. The belief that men who have sex with men and IV drug users are the only ones infected with HIV/AIDS, however, is a false one. The transmission of the infection in the heterosexual community is increasing. The proportion of HIV/AIDS cases among women, racial/ethnic minorities, and children has increased, while the rate of AIDS among men who have sex with men has remained relatively level. This perhaps reflects the impact of sustained, targeted prevention programs.

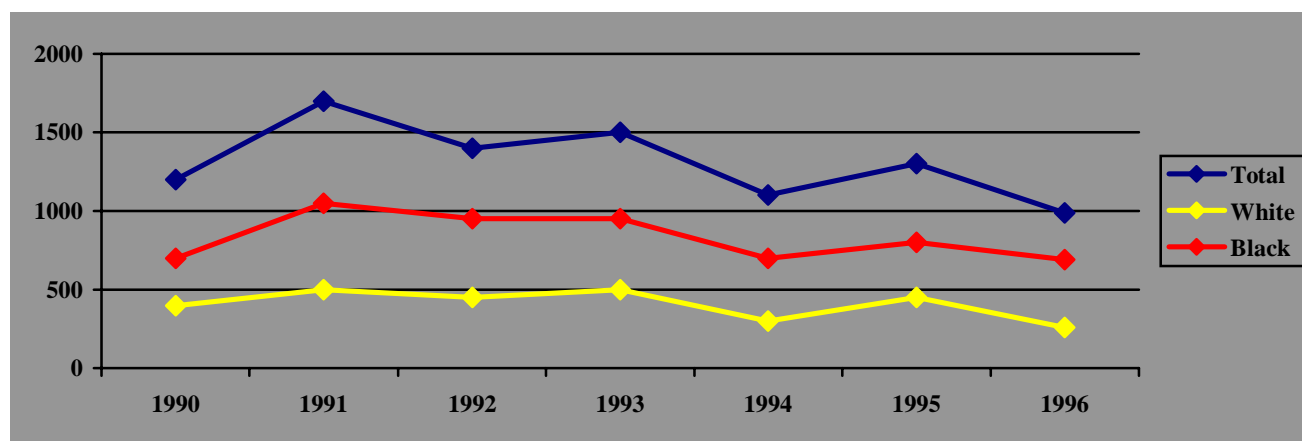
Among women and children with AIDS, Blacks and Hispanics have been especially affected. In 1996, Black women represented 41% of adults/adolescents reported with AIDS--exceeding for the first time the proportion who are White (38%). Racial/ethnic minorities represented 85% of new AIDS cases reported in children in 1996. Women represent the fastest growing group of HIV infected persons in the United States and abroad. In 1996, the United States reported AIDS as the third leading cause of death among women ages 25-44 with heterosexual contact accounting for 38% of reported AIDS cases among female adults/adolescents. Women who are raped, sexually abused, or victims of domestic violence are at risk for unprotected sexual activity and, consequently, at increased risk for HIV infection.

HIV infection has been the leading cause of death among persons ages 25-44 years of all racial/ethnic groups since 1993; and in this age group, AIDS is the leading cause of death for Black women. The most common modes of exposure among minority men are men having sex with men and IV drug use. Among minority women, the most prevalent modes are injecting drug use and heterosexual contact.

The most recent trend reveals that patterns of HIV infection indicate the spread of the AIDS epidemic into rural America is rising. This increase of infection in rural America is attributed to many factors. First, syphilis epidemics in parts of the rural South during the late 1980s and early 1990s, coupled with epidemic use rates of crack/cocaine, have been cited as leading cofactors in both rural and urban areas of the United States. Second, heterosexual transmission of HIV continues to increase and is particularly high in rural areas of the South.

Infection with HIV has been a reportable condition in Virginia since July 1989. Virginia is one of 31 states that require reporting of HIV infections. As can be seen on the following graph, the number of reported cases of HIV in Virginia has generally declined. During 1996, there were 987 HIV infections, the lowest number for any full year of reporting, and a 22% decrease over the previous year, when 1,268 HIV infections were reported. Virginia's decline in the number of HIV cases can be attributed, in part, to HIV/AIDS prevention education programs and better reporting techniques. This graph also reflects the burden of HIV infections in the minority population.

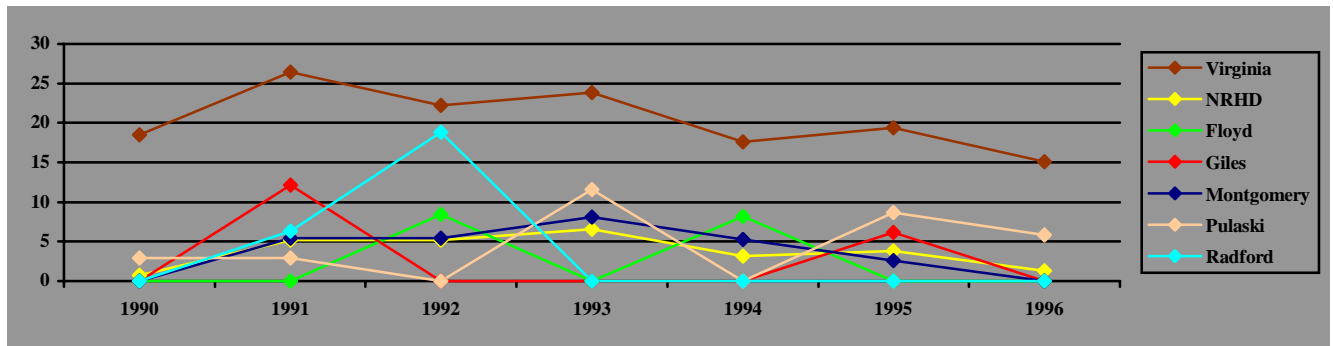
***Number of Reported Cases of HIV Infection
Virginia
1990 - 1996***



Sources: *Reportable Disease Surveillance 1996*, Virginia Department of Health, Office of Epidemiology, February 1997.
Healthy Virginia Communities, Virginia Department of Health, June 1997.

The following graph demonstrates the seven-year trend data for the incidence of HIV infection in Virginia, and the New River Health District and its localities. As can be noted, the incidence for HIV infection in Virginia has decreased by 44% between 1991 and 1996 (26.3 infections per 100,000 persons to 14.7 infections per 100,000 persons, respectively). The annual incidence of HIV infection in the New River Health District has fluctuated from a low of 0.7 in 1990 to a peak incidence of 6.6 in 1993; however, the general trend appears to be decreasing. Locale-specific incidence fluctuates annually--with Floyd County showing a peak incidence of 8.4 in 1992, Giles County showing a peak incidence of 12.2 in 1991, Montgomery County showing a peak incidence of 8.1 in 1993, Pulaski County showing a peak incidence of 11.6 in 1993, and Radford City showing a peak incidence of 18.8 in 1992. It should be noted that during the time period of 1990 - 1996, Radford City had the highest peak annual incidence of HIV infection of any locality in the New River Health District. Since HIV infection is not uniformly reported throughout the United States, estimates of HIV infections are limited and difficult; and they do not precisely reflect the epidemic. The Centers for Disease Control and Prevention (CDC) estimates that there are approximately 650,000 to 900,000 Americans infected with HIV.

***Incidence of HIV Infection Per 100,000 Population
Virginia, New River Health District and Localities*
1990 - 1996***

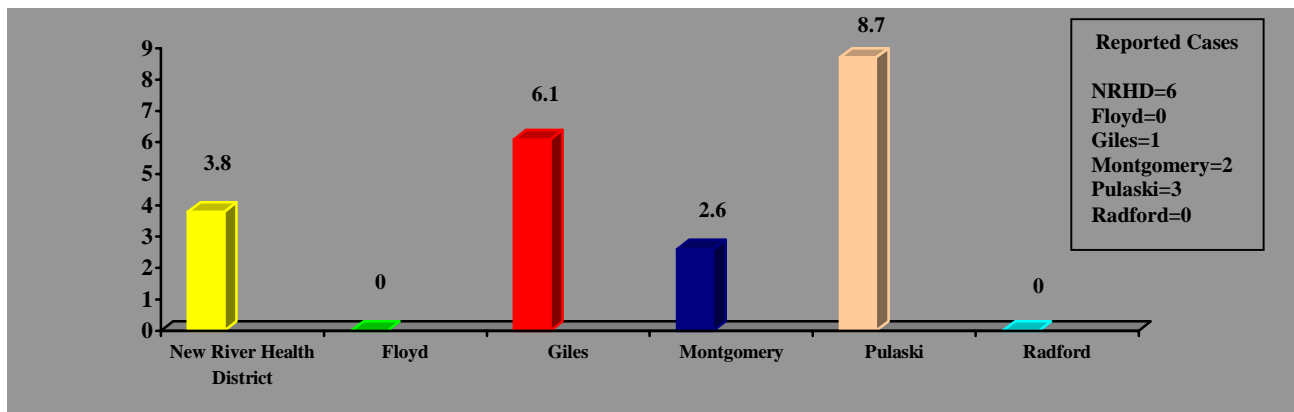


* United States data for HIV (including incidence and numbers of infected individuals) are not available since HIV is not a reportable disease in every state and not reportable nationally.

Source: *Reportable Disease Surveillance*, Virginia Department of Health, Office of Epidemiology, 1990-1996.

The annual incidence of HIV infection for the individual years, 1995 and 1996, for the New River Health District and its localities are shown on the following graphs. For 1995, both HIV infection and AIDS ranked number six in reported communicable disease (3.8 cases per 100,000 population) for the New River Health District. As seen on the following graph, three localities reported a total of six cases of HIV infection for 1995. These localities were Pulaski County reporting three cases with a rate of 8.7, Giles County reporting one case with a rate of 6.2, and Montgomery County reporting two cases with a rate of 2.6. Floyd County and Radford City had no reported cases of HIV infection during this time period.

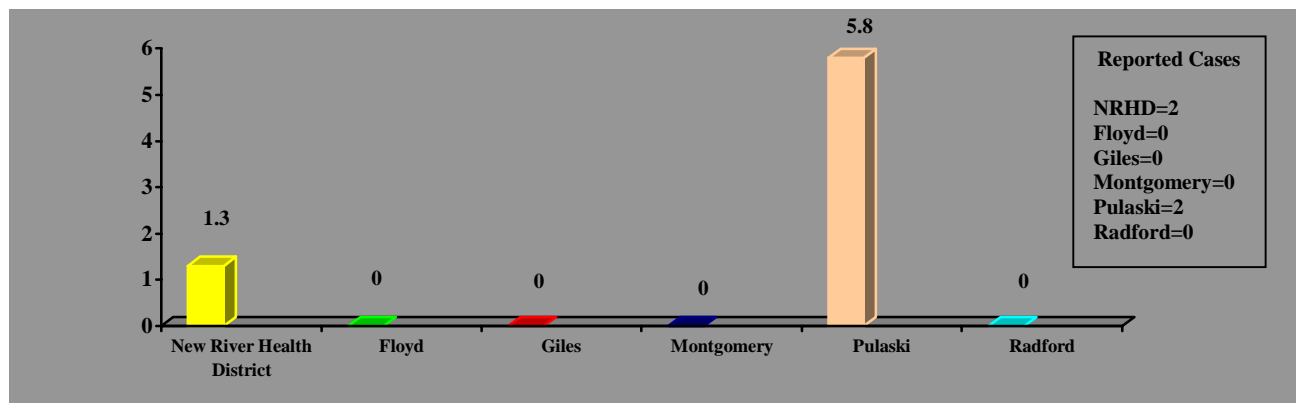
***Incidence of HIV Infection Per 100,000 Population and Number of Reported Cases
New River Health District and Localities
1995***



Source: *Reportable Disease Surveillance 1995*, Virginia Department of Health, Office of Epidemiology, February 1996.

As noted on the following graph, the New River Health District, during 1996, had four localities reporting no cases of HIV infection. These localities were Floyd County, Giles County, Montgomery County, and Radford City. Pulaski County reported two cases of HIV infection with a rate of 5.8 cases per 100,000 population.

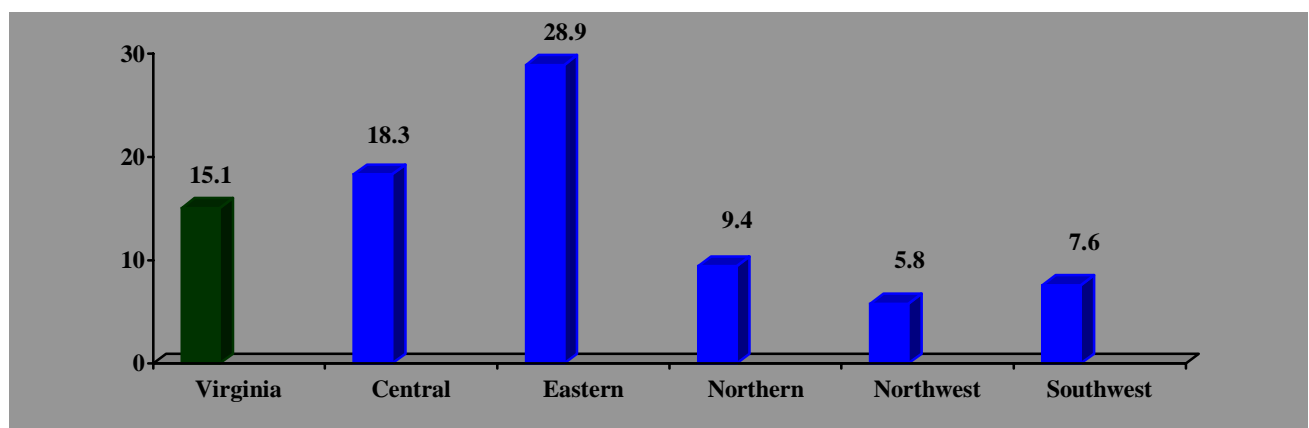
***Incidence of HIV Infection Per 100,000 Population and Number of Reported Cases
New River Health District and Localities
1996***



Source: *Reportable Disease Surveillance 1996*, Virginia Department of Health, Office of Epidemiology, February 1997.

As can be seen on the following graph, the highest incidence of HIV infection in 1996 occurred for the Eastern (health planning) Region (28.9), followed by the Central Region (18.3), Northern Region (9.4), Southwest Region (7.6), and Northwest Region (5.8). The New River Health District is in the Southwest (health planning) Region.

***Incidence of HIV Infection Per 100,000 Population by Health Planning Region
Virginia
1996***



Sources: *Reportable Disease Surveillance 1996*, Virginia Department of Health, Office of Epidemiology, February 1997.
Healthy Virginia Communities, Virginia Department of Health, June 1997.

The progression of HIV infection to AIDS is as high as 50% among untreated HIV-infected adults monitored for 10 years. The incidence of AIDS cases is meaningful for measuring progress in reducing the incidence of HIV infection. Trends in HIV infection are important because they are likely to be predictive of future AIDS trends.

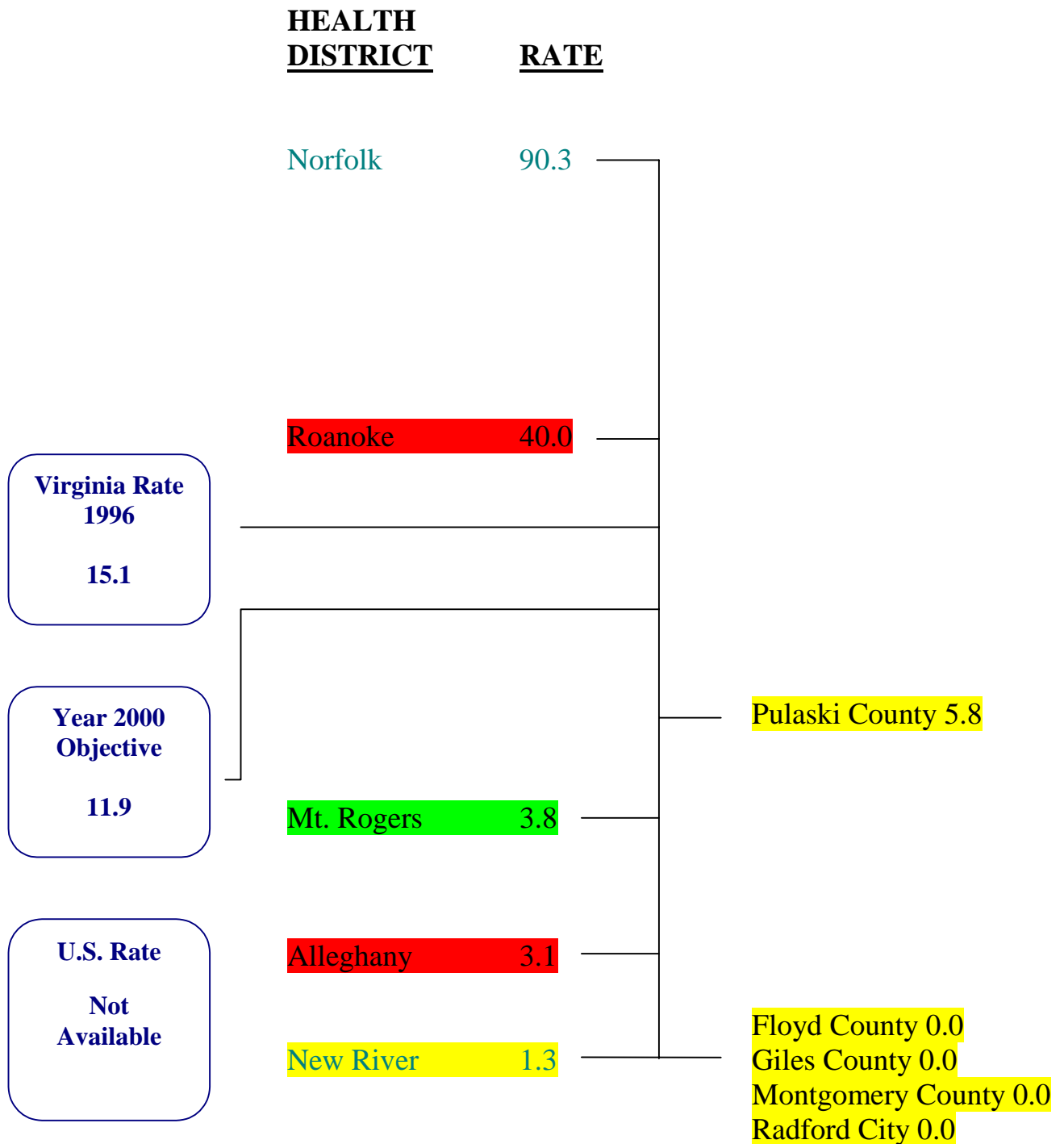
Many HIV-infected people do not know that they have the virus; thus, increased efforts to educate the public on risks and precautions are essential to slowing the spread of the disease. Combating the spread of HIV poses different problems from those associated with other infectious diseases. As no vaccine or cure is available, the transmission of HIV can only be halted by changing risky behaviors. People who are at special risk because of their behaviors include intravenous drug abusers and their sex partners; people with large numbers of sex partners; men who have sex with men, and their female partners; people who exchange sex for money or drugs; and the infants of HIV-infected mothers.

A critical public health component in the effort to change behaviors and reduce transmission of HIV is education for the general public and specific groups at high-risk of having HIV and AIDS. The New River Health District has established ongoing interventions and efforts to respond to the HIV/AIDS challenge. Each health department in the District offers free condom distribution and confidential HIV testing. Also, the Montgomery County Health Department is a designated anonymous testing site with satellite clinics at Virginia Tech and Radford University. Counseling and testing centers follow one of two policies. The **confidential** testing site records the individual's name with the test result and the patient record is kept a secret from everybody except medical personnel and the Virginia Department of Health (VDH). When an HIV antibody test is done confidentially, the individual's record is private from everyone except medical personnel, or in some states, the state health department. When an HIV antibody test is done confidentially, the individual can sign a release form, like all other medical records, to have the test result sent to his/her physician or other health care professional. In contrast, the **anonymous** testing site does not use an individual's name--the test result is released to the patient by an identification number. That individual is the only one who can reveal his/her test result to another person, including medical personnel.

Mass educational methods, innovative campaigns, and community-wide activities designed to reach target audiences have been conducted in various community settings in an effort to increase the public's knowledge on HIV/AIDS. An anonymous test clinic is held at the Montgomery County Health Department on a weekly basis; and through partnerships with the two major universities, anonymous testing is offered on-site during fall and spring semesters.

The Year 2000 Objective is to confine the incidence of HIV infection to no more than 11.9 per 100,000 population. The New River Health District, with an incidence of 1.3 per 100,000 population in 1996, is well below the Year 2000 Objective. Education on the prevention of HIV to the general public remains the key component to preventing the spread of HIV infection.

**Incidence of Human Immunodeficiency Virus (HIV) Infection
Per 100,000 Population
Selected Health Districts, New River Health District and Localities
1996**



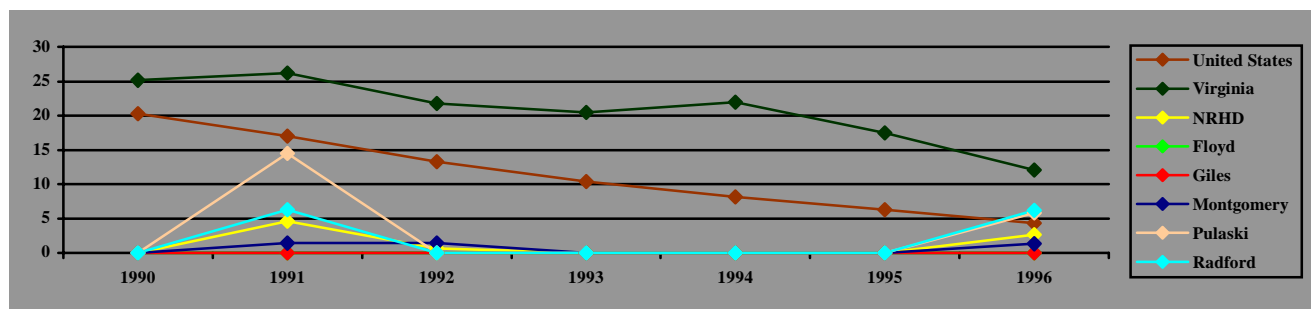
Sexually Transmitted Diseases: Syphilis

Objective: *Reduce primary and secondary syphilis to an incidence of no more than 4 cases per 100,000 population.*

Syphilis was the first sexually transmitted disease (STD) for which control measures were developed and tested, and the number of cases reached a low point nationally in the mid-1980s before starting to climb again. This venereal disease typically causes mild symptoms at the time of initial infection. If the disease is left untreated, it can result in progressive tissue damage in multiple organs.

The seven-year trend data of syphilis incidence in the United States, Virginia, and the New River Health District and its localities can be seen on the following graph. The data from 1990 to 1996 show a decreasing pattern in rates for the United States and Virginia. It should be noted that national annual epidemiologic surveillance data for syphilis includes only primary and secondary syphilis and does not include early latent syphilis, whereas Virginia's annual epidemiologic surveillance report for syphilis includes all reported infectious stages of syphilis--all total early syphilis cases including primary, secondary, and early latent less than one year. Therefore, Virginia's reported syphilis numbers and rates will be higher than those of the United States; however, Virginia's syphilis surveillance data more accurately reflect the infectious stages of syphilis in the State, the New River Health District, and its localities.

***Incidence of Syphilis Per 100,000 Population
United States*, Virginia**, New River Health District** and Localities**
1990 – 1996***



* Primary and Secondary.

** Primary, Secondary, and Early Latent < one year.

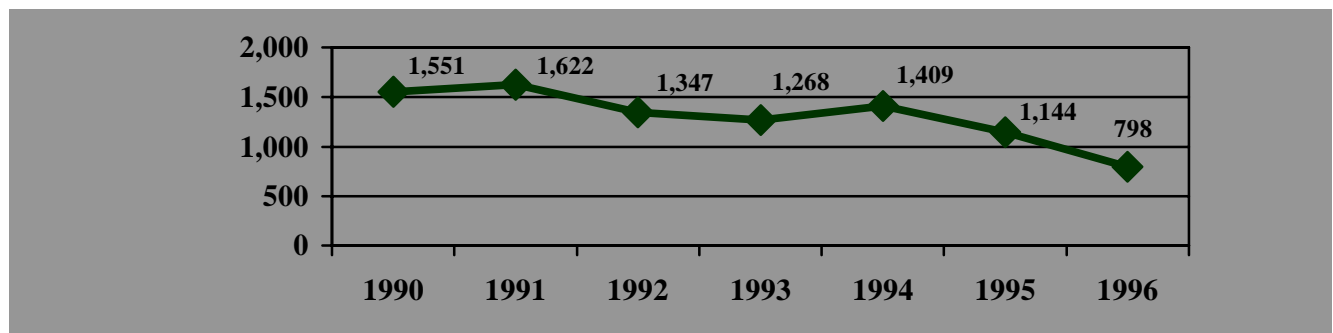
Source: *Reportable Disease Surveillance*, Virginia Department of Health, Office of Epidemiology, 1990-1996.

The Centers for Disease Control and Prevention website, Health Statistics section, www.cdc.gov, March 1998.

As can be noted from the seven-year trend graph, the incidence of syphilis in Virginia has decreased by 56% between 1991 and 1996 (26.2 per 100,000 to 12.1 per 100,000, respectively). The annual incidence of reported syphilis in the New River Health District has remained significantly lower than the State fluctuating from a low of 0.0 in 1990, 1993, 1994, and 1995 to a peak incidence of 4.6 in 1991. Locale-specific incidence also fluctuates annually--with Montgomery County showing a peak incidence of 1.4 in 1991 and 1992, Pulaski County showing a peak incidence of 14.5 in 1991, and Radford City showing a peak incidence of 6.3 in 1991. The counties of Floyd and Giles had no reported cases of syphilis from 1990 - 1996 and, therefore, had no incidence of syphilis. It should be noted that during the time period of 1990 - 1996, Pulaski County had the highest peak incidence of syphilis of any locality in the New River Health District.

The following graph depicts the seven-year trend data for the number of reported cases of syphilis in Virginia. This graph shows a promising drop in Virginia's reported cases of syphilis over the past seven years. This data is encouraging and strongly suggests that intense public health programs such as screening, partner notification, education, and treatment have been successful.

Number of Reported Cases of Syphilis*
Virginia
1990 - 1996



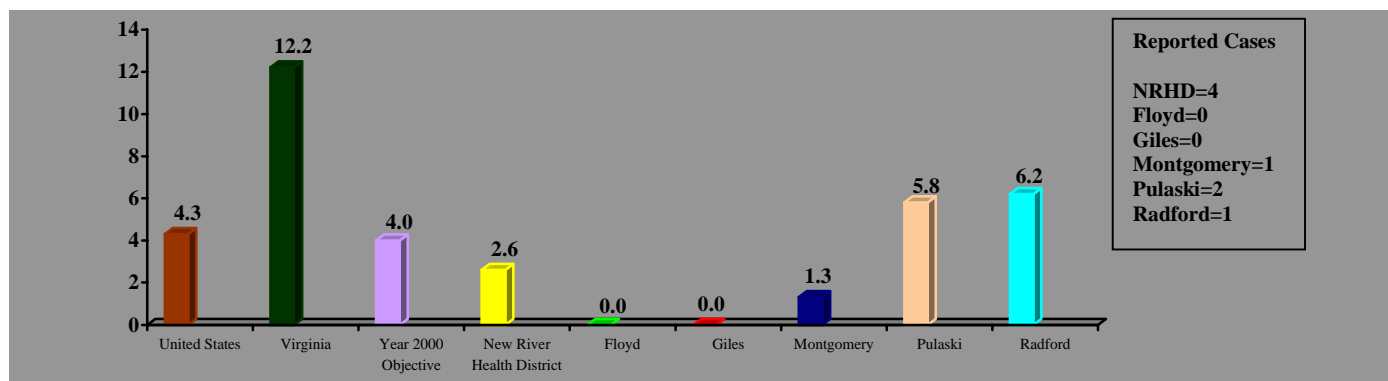
* Primary, Secondary, and Early Latent < one year.

Sources: *Reportable Disease Surveillance 1996*, Virginia Department of Health, Office of Epidemiology, February 1997.

Healthy Virginia Communities, Virginia Department of Health, June 1997.

The following graph depicts the 1996 incidence of syphilis for the United States, Virginia, Year 2000 Objective, and the New River Health District and its localities. It also shows the number of reported cases of syphilis in 1996 in the New River Health District and its localities. As illustrated in the following chart, the United States' 1996 incidence of syphilis (4.3 per 100,000 population) was lower than Virginia's (12.2 per 100,000 population). This is expected due to the differences in annual epidemiologic surveillance reporting between the United States and Virginia. In the New River Health District, a total of four cases of syphilis were reported in three localities for 1996. Floyd County and Giles County reported no cases of syphilis. Pulaski County reported two cases, reflecting a rate of 5.8; Radford City reported one case, reflecting a rate of 6.2; and Montgomery County reported one case, reflecting a rate of 1.3.

Incidence of Syphilis Per 100,000 Population and Number of Reported Cases***
United States*, Virginia, Year 2000 Objective**, New River Health District** and Localities**
1996



* Primary and Secondary.

** Primary, Secondary, and Early Latent < one year.

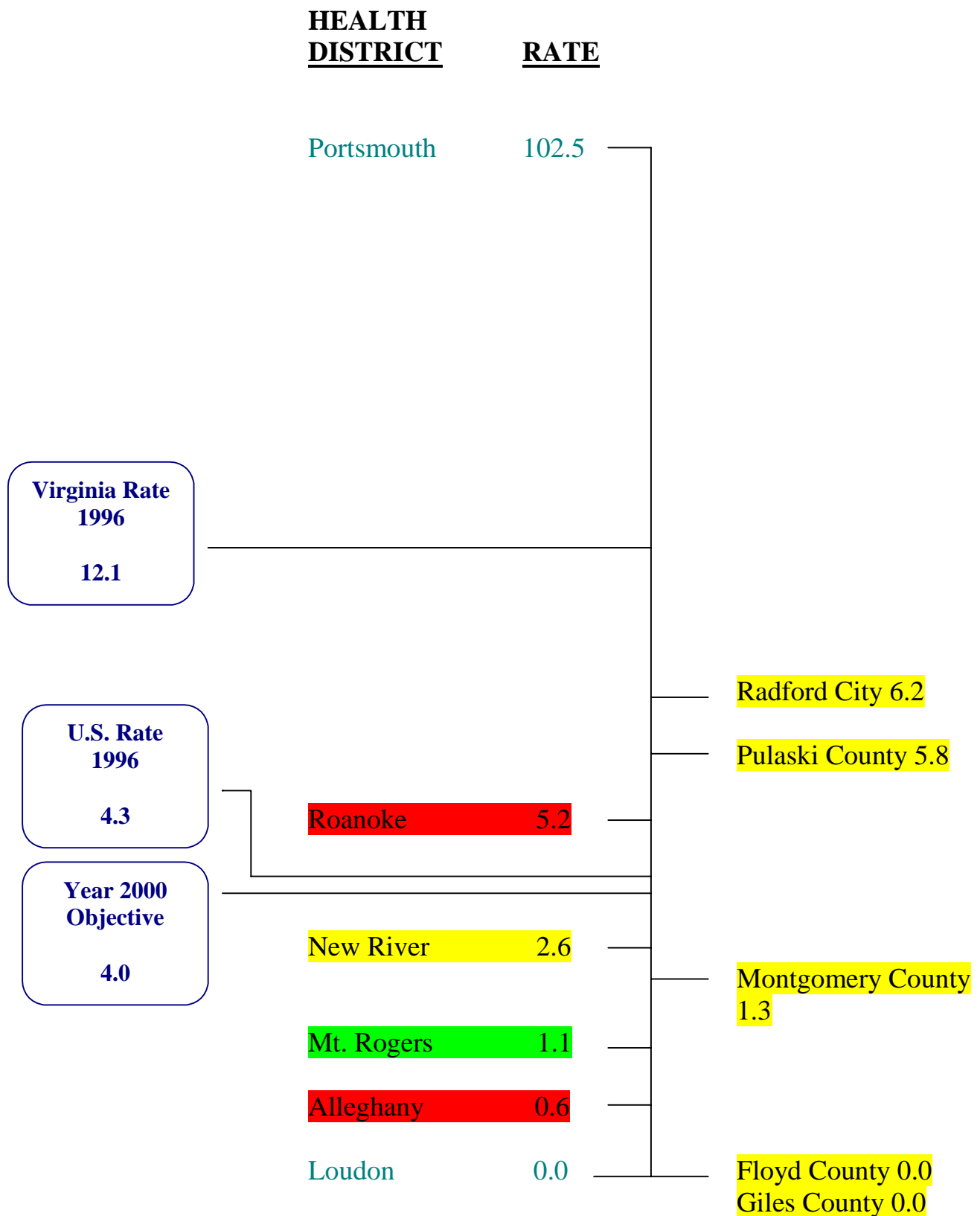
*** New River Health District only.

Sources: *Reportable Disease Surveillance 1996*, Virginia Department of Health, Office of Epidemiology, February 1997.

Healthy Virginia Communities, Virginia Department of Health, June 1997.

The history of syphilis illustrates the role of public health in prevention and control of STDs. Syphilis rates were at a national all time high of 575,600 in 1943; however, with the initiation of intense public health programs that included health education, as well as mandatory contact tracing of partners, treatment, and follow-up, the number of cases dramatically declined through 1986. The national climb in syphilis rates in the past 10 years reinforces the need for continued support and expansion of the public health role in STD prevention.

Incidence of Syphilis Per 100,000 Population
Selected Health Districts, New River Health District and Localities
1996



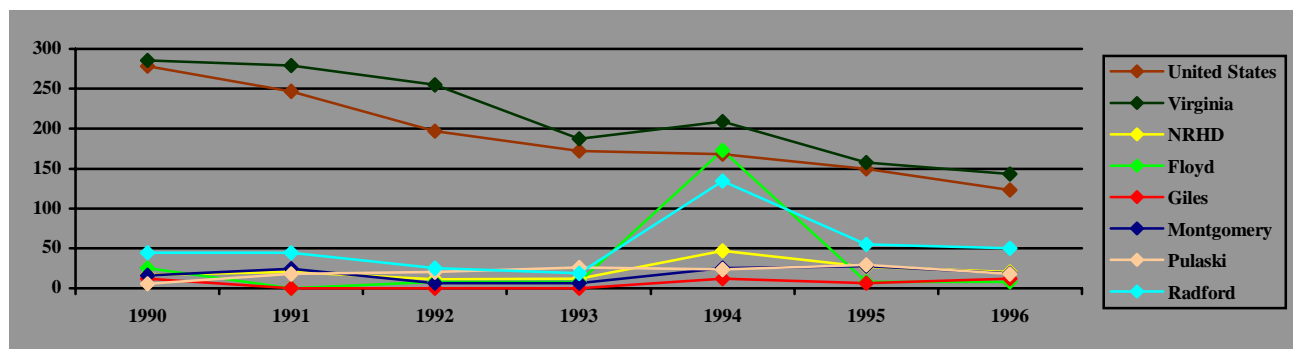
Sexually Transmitted Diseases: Gonorrhea

Objective: *Reduce gonorrhea to an incidence of no more than 100 cases per 100,000 population.*

Gonorrhea is a bacterial infection that typically causes infection of the lower urinary and genital tract in men and a more extensive infection of the reproductive organs in women. Gonorrhea is the most frequently reported communicable disease in the United States. It is used as the key indicator of progress in reducing sexually transmitted disease among populations that suffer from the highest disease rates. Gonorrhea control efforts began in 1972 and have had remarkable success. Low-income youth and minority populations remain at high-risk for gonorrhea. Young adults (ages 20-29) are also more likely to have gonorrhea than any other age group. For instance, in Virginia in 1996, the highest number of cases (4,115)--representing the highest incidence of 400.3 per 100,000 population--was reported in this age group; and 78% of the total cases were in Blacks.

The seven-year trend data of gonorrhea incidence in the United States, Virginia, and the New River Health District and its localities can be seen on the following graph. The data from 1990 to 1996 show a downward trend in gonorrhea incidence for the United States and Virginia. The incidence of gonorrhea in Virginia has decreased by 50% between 1990 and 1996 (285.3 per 100,000 to 143.5 per 100,000, respectively). The annual incidence of reported gonorrhea in the New River Health District has remained significantly lower than the State fluctuating from a low of 11.1 in 1992 to a peak incidence of 46.5 in 1994. The incidence of reported gonorrhea in the New River Health District shows no trends; however, the rate has decreased 60% from 1994 (46.5 per 100,000) to 1996 (20.0 per 100,000 population). Locale-specific incidence also fluctuates annually--with Floyd County showing a peak incidence of 173.1 in 1994, Giles County showing a peak incidence of 12.3 in 1994, Montgomery County showing a peak incidence of 27.3 in 1995, Pulaski County showing a peak incidence of 29.1 in 1995, and Radford City showing a peak incidence of 134.7 in 1994. It should be noted that during the time period of 1990 - 1996, Floyd County had the highest peak incidence of gonorrhea of any locality in the New River Health District. Of interest, both Floyd County's and Radford City's incidence of gonorrhea increased dramatically in 1994 only.

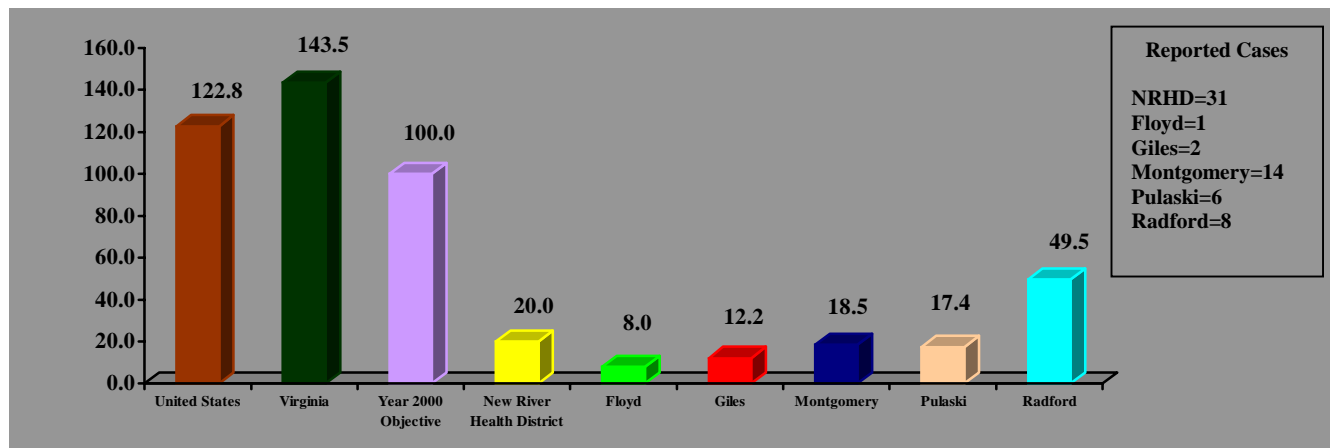
***Incidence of Gonorrhea Per 100,000 Population
United States, Virginia, New River Health District and Localities
1990 - 1996***



Source: *Reportable Disease Surveillance*, Virginia Department of Health, Office of Epidemiology, 1990-1996.
The Centers for Disease Control and Prevention website, Health Statistics section, www.cdc.gov, March 1998.

The 1996 data of incidences of gonorrhea for the United States, Virginia, the Year 2000 Objective, and the New River Health District and its localities are depicted on the following graph. It also shows the number of reported cases of gonorrhea in the New River Health District and its localities for 1996. In 1996, gonorrhea was Virginia's second highest reported communicable disease. The rate of occurrence was 143.5 per 100,000 population, slightly higher than the United States rate of 122.8. In the New River Health District, there were a total of 31 cases reported for 1996--Floyd County reported one case; Giles County reported two cases; Pulaski County reported six cases; Radford City reported eight cases; and Montgomery County reported 14 cases. All five localities in the District had rates lower than the Year 2000 Objective of 100.0 per 100,000 population. The lowest incidence in the District was Floyd County (8.0), and the highest was Radford City (49.5). Giles County had an incidence of 12.2, Pulaski County had an incidence of 17.4, and Montgomery County had an incidence of 18.5.

Incidence of Gonorrhea Per 100,000 Population and Number of Reported Cases*
United States, Virginia, Year 2000 Objective, New River Health District and Localities
1996



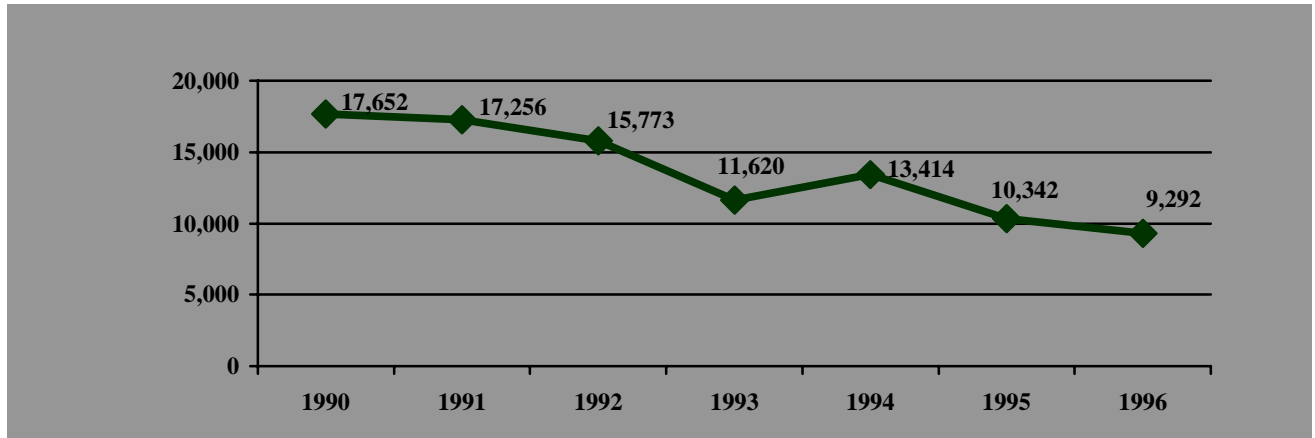
* New River Health District only

Sources: *Reportable Disease Surveillance 1996*, Virginia Department of Health, Office of Epidemiology, February 1997.

Healthy Virginia Communities, Virginia Department of Health, June 1997.

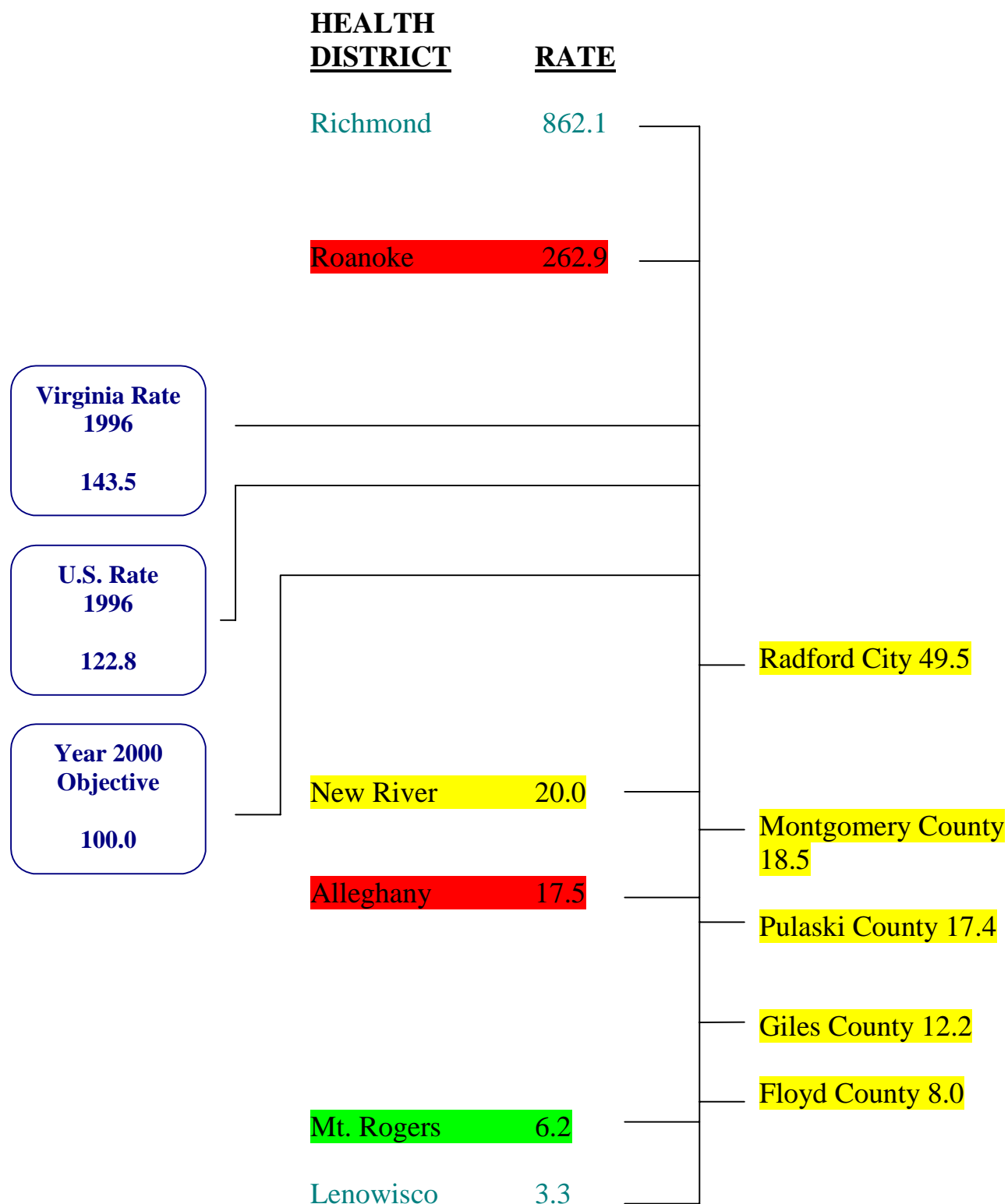
As reflected in the following graph, Virginia has experienced a downward trend in gonorrhea since 1990, with the total number of cases in 1996 showing a 10% drop from the previous year. While this is an encouraging picture, in 1996, Virginia's incidence of gonorrhea was 141.8 per 100,000 population. This clearly shows that prevention and education efforts must continue in order to meet the Year 2000 Objective. On the other hand, expanded screening, successful partner notification, treatment, follow-up, and education are considered contributing factors to the New River Health District being well below the Year 2000 Objective with an incidence of 20.0 per 100,000 population.

*Number of Reported Cases of Gonorrhea
Virginia
1990 - 1996*



Sources: *Reportable Disease Surveillance 1996*, Virginia Department of Health, Office of Epidemiology, February 1997.
Healthy Virginia Communities, Virginia Department of Health, June 1997.

Incidence of Gonorrhea Per 100,000 Population
Selected Health Districts, New River Health District and Localities
1996



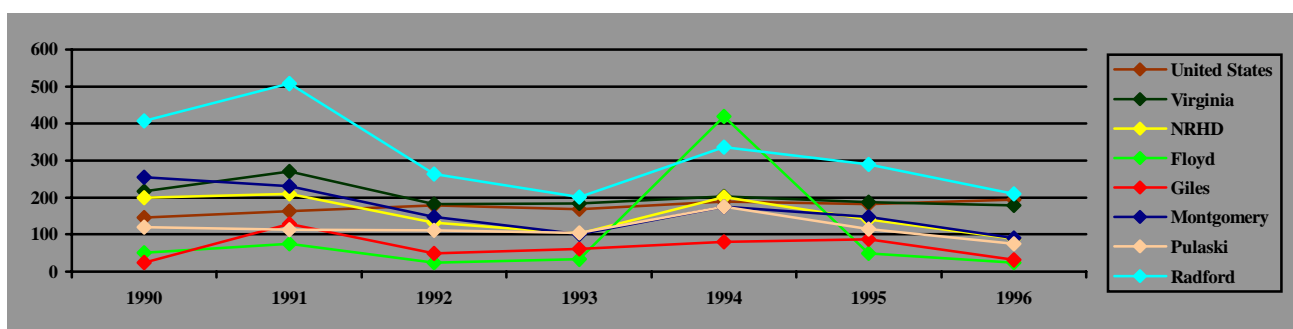
Sexually Transmitted Diseases: *Chlamydia trachomatis* Infection

Chlamydia trachomatis is the most common sexually transmitted bacterial pathogen in the United States accounting for more than four million infections annually. The infection is common in sexually active adolescents and young adults. Chlamydia can be treated inexpensively; however, symptoms are often absent or minor among most infected women and men. Women and children bear much of the burden of chlamydial infection in terms of its complications (acute pelvic inflammatory disease, known as PID; infant conjunctivitis and pneumonia).

The Year 2000 Objective is to reduce the prevalence of *C. trachomatis* infection among young women (under the age of 25) to no more than 5%. This is to be measured by a decrease in the prevalence of chlamydial infection among family planning clients. Unfortunately, this prevalence data is not readily available; however, number of reported cases and incidence data (the rate per 100,000 population) is available from the Virginia Department of Health's surveillance system and will be used for comparison. It should be noted that health department screening in Virginia is limited to females.

The seven-year trend data of *Chlamydia trachomatis* incidence in the United States, Virginia, and the New River Health District and its localities can be seen on the following graph. The *C. trachomatis* incidence data from 1990 - 1996 show an upward trend for the United States and a downward trend for Virginia. The incidence of *C. trachomatis* in Virginia has decreased by approximately 17% between 1990 and 1996 (216.4 per 100,000 to 179.4 per 100,000, respectively). The annual incidence of reported *C. trachomatis* infections in the New River Health District has remained consistently lower than the State fluctuating from a peak incidence of 209.6 in 1991 to a low of 87.6 in 1996. Overall, in the New River Health District, the incidence of reported *C. trachomatis* has decreased by approximately 58% from its peak incidence in 1991 to 1996. Locale-specific incidence fluctuates annually--with Floyd County showing a peak incidence of 420.3 in 1994, Giles County showing a peak incidence of 128.3 in 1991, Montgomery County showing a peak incidence of 254.4 in 1990, Pulaski County showing a peak incidence of 174.4 in 1994, and Radford City showing a peak incidence of 508.2 in 1991. It should be noted that during the time period of 1990 - 1996, Radford City had the highest peak incidence of reported *C. trachomatis* infection of any locality in the New River Health District. Of interest, Radford City has also had a consistently higher incidence of reported *C. trachomatis* infections than any other locality in the New River Health District, as well as higher rates than Virginia and the United States.

***Incidence of Chlamydia trachomatis Infection Per 100,000 Population
United States, Virginia, New River Health District and Localities
1990 - 1996***

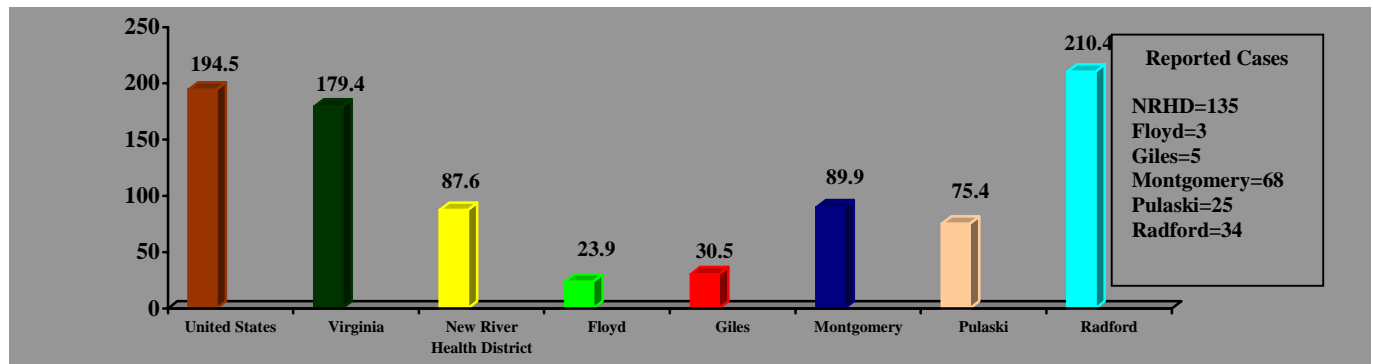


Source: *Reportable Disease Surveillance*, Virginia Department of Health, Office of Epidemiology, 1990-1996.
The Centers for Disease Control and Prevention website, Health Statistics section, www.cdc.gov, March 1998.

In 1996, the number one and most reported communicable disease in Virginia and in the New River Health District was *C. trachomatis* infection. During 1996, Virginia reported 11,755 cases of chlamydia--136 of those cases were in the New River Health District. The majority, 83%, of these reported cases in the District (113) occurred in young adults, particularly young women, between the ages of 15 - 24.

The following bar graph depicts the 1996 incidences of *C. trachomatis* infection in the United States, Virginia, and the New River Health District and its localities. It also shows the number of reported cases for the New River Health District and its localities. As can be seen, the New River Health District's 1996 rate (87.6) was significantly lower than that of Virginia (179.4) and the Nation (194.5). Floyd County had the lowest rate of 23.9 with three cases, and Radford City had highest rate of 210.4 with 34 cases. Giles County had a rate of 30.5 and five cases, Pulaski County had a rate of 75.4 and 25 cases, and Montgomery County had a rate of 89.9 and 68 of cases.

***Incidence of Chlamydia trachomatis Infection Per 100,000 Population and Number of Reported Cases*
United States, Virginia, New River Health District and Localities
1996***



* New River Health District only.

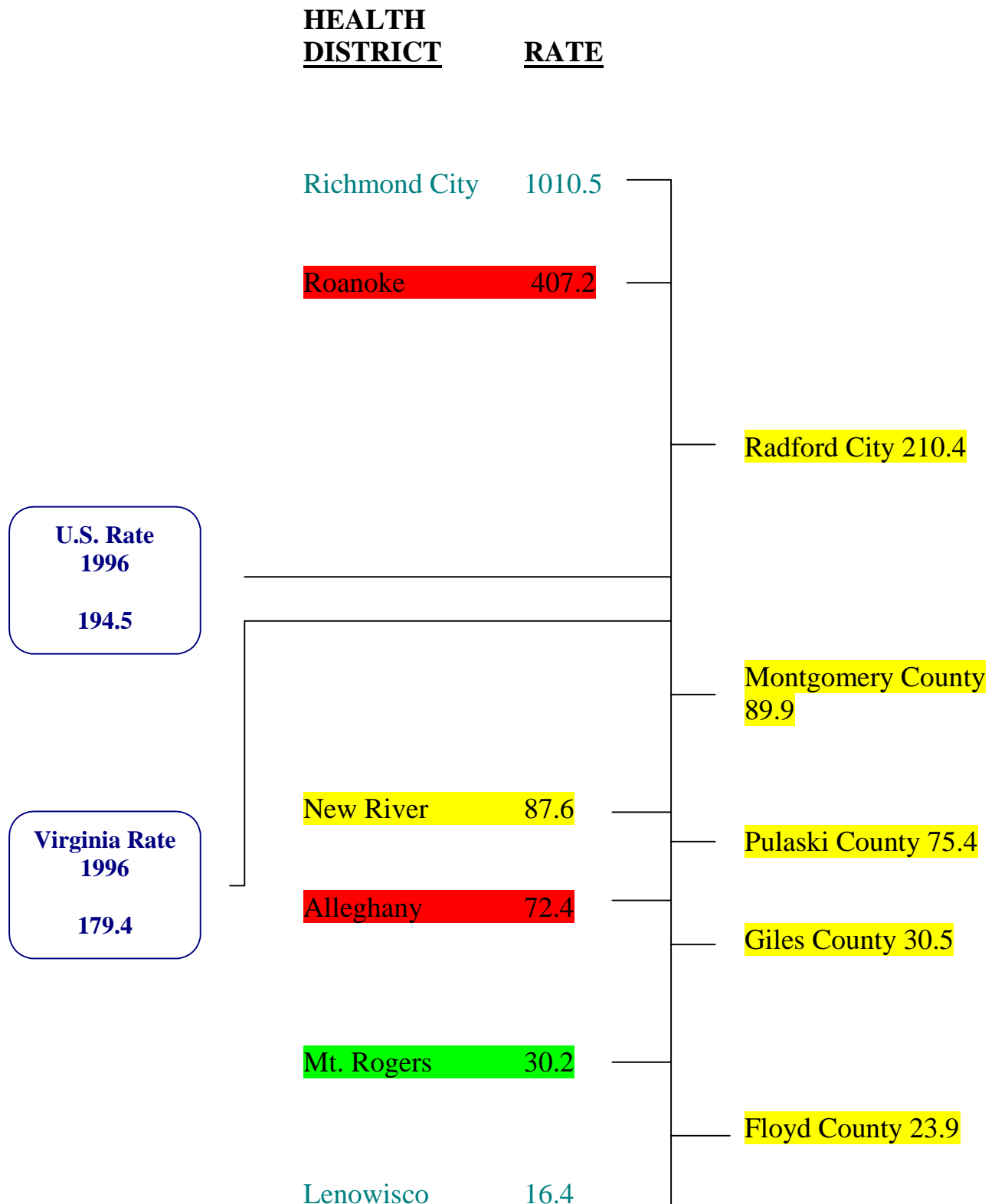
Sources: *Reportable Disease Surveillance 1996*, Virginia Department of Health, Office of Epidemiology, February 1996.
Healthy Virginia Communities, Virginia Department of Health, June 1997.

Virginia's health laws require the reporting of chlamydial infections; nevertheless, the reported cases of chlamydia in Virginia, and in the New River Health District, are probably an underestimate of the number of actual cases due to under-reporting by physicians and other health care professionals, including laboratories. Furthermore, Virginia's (and the New River Health District's) data are expected to underestimate the incidence of *C. trachomatis* infections because (1) screening has been limited to high-risk females attending certain public health clinics, (2) as many as 75% of women and 25% of men with uncomplicated *C. trachomatis* infections are asymptomatic, and (3) persons with gonorrhea presumptively treated for *C. trachomatis* infections are not included in the case counts. The Centers for Disease Control and Prevention (CDC) estimate the morbidity due to this organism to be twice that of gonorrhea.

What you can do to protect yourself from Sexually Transmitted Diseases:

- ❑ **Avoid unsafe, unprotected sex, and IV drug use.**
- ❑ **Practice mutual monogamy with uninfected individuals.**
- ❑ **Use latex condoms consistently and properly.**

**Incidence of *Chlamydia trachomatis* Infection Per 100,000 Population
Selected Health Districts, New River Health District and Localities
1996**



Tuberculosis

Objective: *Reduce tuberculosis to an incidence of no more than 3.5 cases per 100,000 population.*

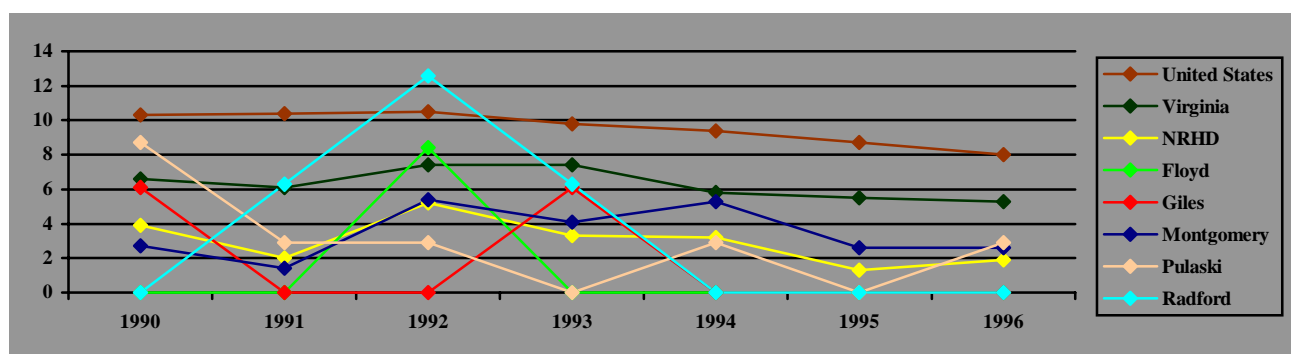
Pulmonary tuberculosis (TB) is a communicable disease which is spread through droplets expelled into the air. The disease often has serious and even fatal consequences. Tuberculosis poses a substantial public health challenge because it is highly contagious. Without treatment, an infected person can spread the disease and infect many other people.

At the beginning of the twentieth century, TB was a common illness and a major threat in the United States. Drug treatment became available and was widely used in the 1940s and the number of cases declined as newer, more aggressive treatments became successful.

There is a resurgence of tuberculosis cases among vulnerable populations in cities across the nation. This increased number of cases is attributed to a variety of factors including people with HIV infection, crowded living conditions in prisons and homeless shelters, and immigrants from countries where tuberculosis is endemic.

The following graph demonstrates the seven-year trend data for the incidence of tuberculosis in the United States, Virginia, and the New River Health District and its localities. The data from 1990 to 1996 demonstrate a decreasing trend in tuberculosis incidence for the United States and Virginia. The incidence of tuberculosis in Virginia has decreased by 28% between 1993 and 1996 (7.4 per 100,000 to 5.3 per 100,000, respectively). The annual incidence of reported tuberculosis in the New River Health District has remained lower than the State fluctuating from a peak incidence of 5.2 in 1992 to a low of 1.3 in 1995. Locale-specific incidence also fluctuates annually--with Floyd County showing a peak incidence of 8.4 in 1992, Giles County showing a peak incidence of 6.1 in 1990 and 1993, Montgomery County showing a peak incidence of 5.4 in 1992, Pulaski County showing a peak incidence of 8.7 in 1990, and Radford City showing a peak incidence of 12.6 in 1992. It should be noted that during the time period of 1990 - 1996, Radford City had the highest peak incidence of tuberculosis of any locality in the New River Health District. Of interest, Floyd County only had tuberculosis cases reported in 1992; and Giles County only had tuberculosis cases reported in 1990 and 1993.

***Incidence of Tuberculosis Per 100,000 Population
United States, Virginia, New River Health District and Localities
1990 - 1996***

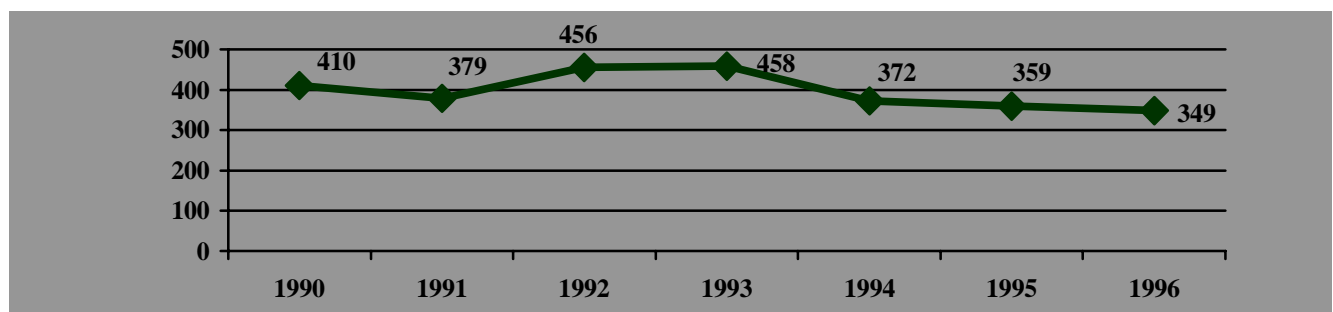


Source: *Reportable Disease Surveillance*, Virginia Department of Health, Office of Epidemiology, 1990-1996.

The Centers for Disease Control and Prevention website, Health Statistics section, www.cdc.gov, March 1998.

Virginia reported 349 cases of tuberculosis in 1996, a 24% drop from 1993 – 1996; and this marks a low point for the decade of the nineties. The following graph shows the declining trend of tuberculosis in Virginia from 1990 - 1996. The decline in the number of reported cases of tuberculosis strongly suggests that the TB Control Program in Virginia has been, and continues to be, successful. The New River Health District is one of 35 health districts across Virginia that has addressed tuberculosis with innovative control programs. These programs include such services as early identification of infectious TB, the initiation of appropriate treatment, and the completion of drug therapy including directly observed therapy. Directly Observed Therapy (DOT) ensures that every person with the disease completes the prescribed medications in the presence of a health care worker or other designated person. These activities shorten the period of infectiousness, promote cure, and prevent the further spread of tuberculosis. The following graph clearly shows that the control programs and strategies that are in place for the District have already placed us well below the Year 2000 Objective.

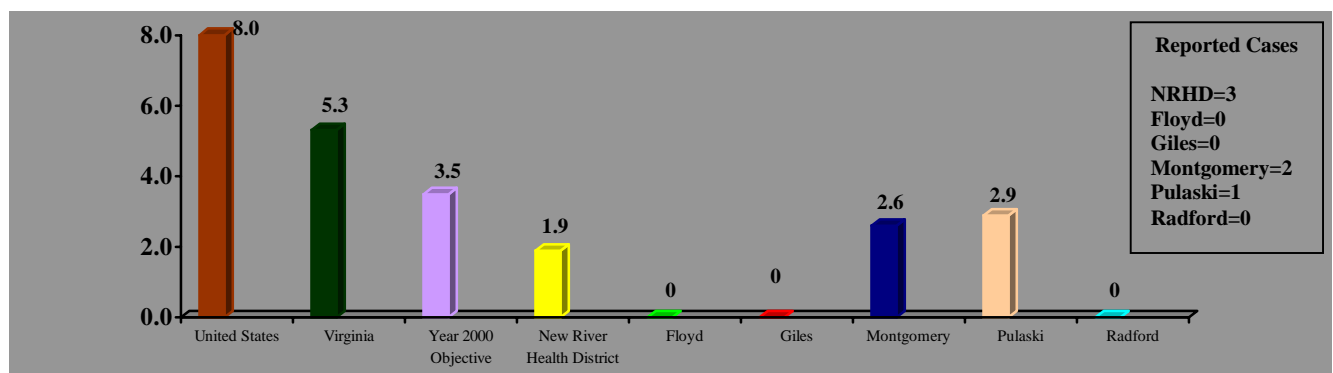
***Number of Reported Cases of Tuberculosis
Virginia
1996***



Source: *Healthy Virginia Communities*, Virginia Department of Health, June 1997.

The New River Health District had only two localities that reported tuberculosis in 1996--Montgomery County reported two cases (2.6 per 100,000 population) and Pulaski County reported one case (2.9 per 100,000 population). As can be seen on the following graph, the 1996 incidence of TB for the New River Health District was 1.9 per 100,000 population which was well below the incidence of TB for the United States (8.0), Virginia (5.3), and the Year 2000 Objective (3.5).

***Incidence of Tuberculosis Per 100,000 Population and Number of Reported Cases*
United States, Virginia, Year 2000 Objective, New River Health District and Localities
1996***



* New River Health District only.

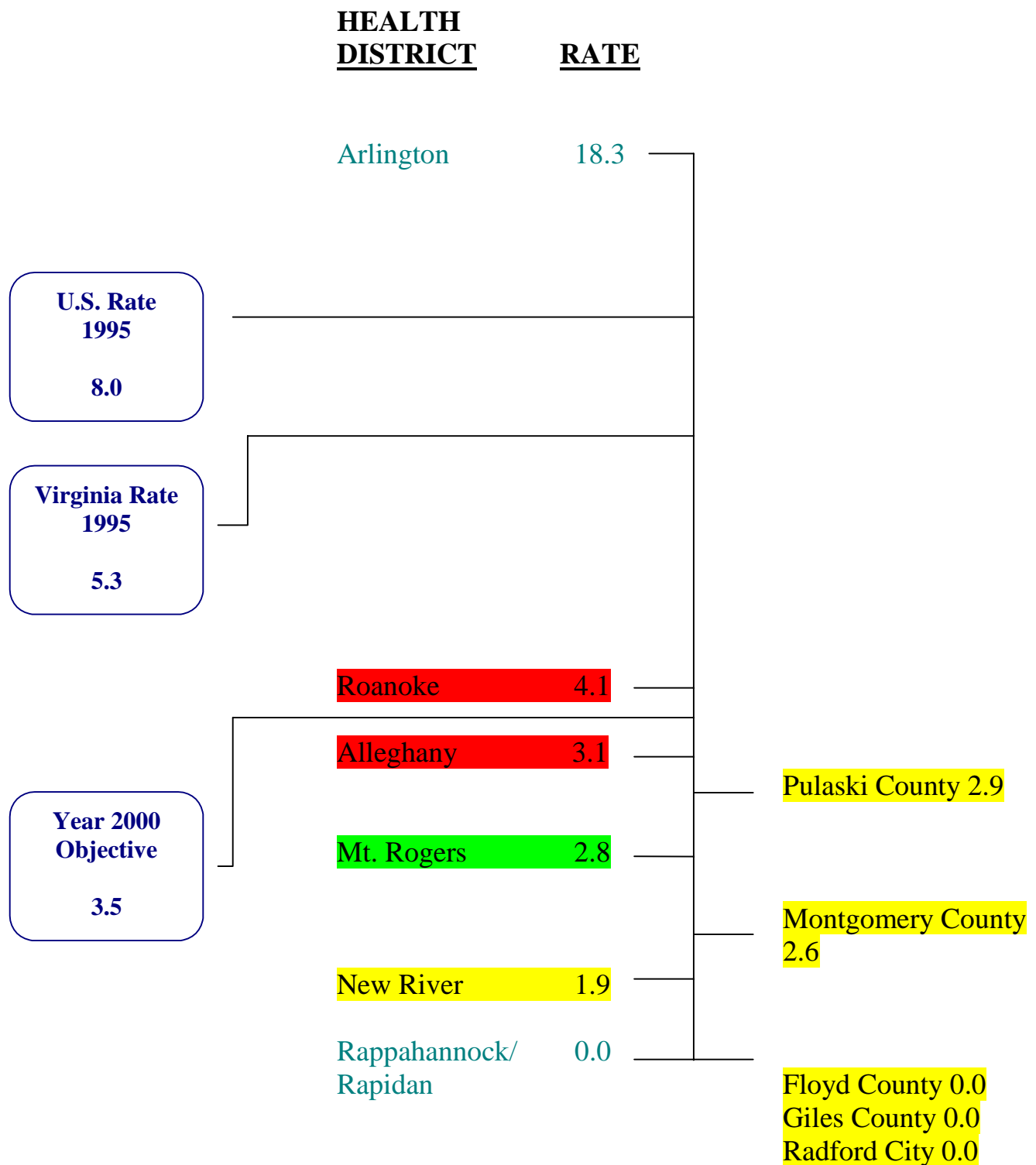
Sources: *Reportable Disease Surveillance 1996*, Virginia Department of Health, Office of Epidemiology, February 1997.

Healthy Virginia Communities, Virginia Department of Health, June 1997.

What you can do:

- ❑ **Active tuberculosis patients should complete a full course of treatment.** Multi-drug resistant strains develop because of inadequate or erratic treatment.
- ❑ **Every person identified as having had contact with a person infected with tuberculosis should receive a skin test.**
- ❑ **Residents of homeless shelters should be tested.**
- ❑ **Residents of refugee settlements should be tested.**
- ❑ **Residents of substance abuse treatment centers should be tested.**

**Incidence of Tuberculosis Per 100,000 Population
Selected Health Districts, New River Health District and Localities
1996**



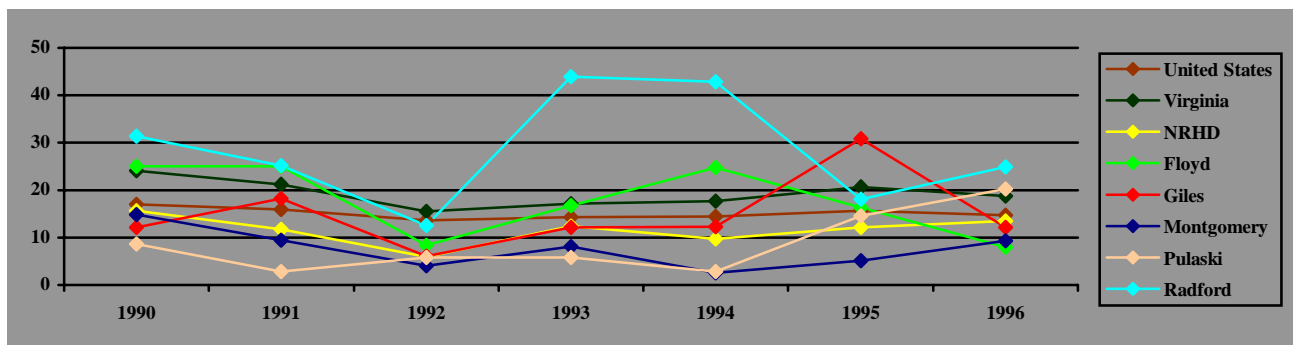
Foodborne Diseases: Salmonellosis

Objective: *Reduce the incidence of salmonellosis to no more than 16 cases per 100,000 population.*

Salmonellosis is a disease caused by bacteria called *Salmonella* and is characterized by diarrhea, fever, headache, abdominal pain, and nausea. Outbreaks of *Salmonella enteritidis* infections increased dramatically over the decade of the 1980s, and this foodborne disease is often traced to contaminated eggs. This disease can be particularly dangerous for infants, older adults, and immunocompromised people.

The following graph demonstrates the seven-year trend data for the incidence of salmonellosis in the United States, Virginia, and the New River Health District and its localities. The data from 1990 to 1996 show annual variations in the incidence of salmonellosis in the United States and Virginia. The incidence of salmonellosis in Virginia has fluctuated from a peak incidence of 24.1 in 1990 to a low of 17.1 in 1993; however, there appears to be a downward trend. As can be noted, the incidence of reported salmonellosis in Virginia has decreased 22% between 1990 and 1996 (24.1 infections per 100,000 persons to 18.8 infections per 100,000 persons, respectively). The annual incidence of salmonellosis in the New River Health District has fluctuated from a peak incidence of 15.7 in 1990 to a low of 5.9 in 1992, and there is no evident trend. Locale-specific incidence fluctuates annually—with Floyd County showing a peak incidence of 25.0 in 1990 and 1991, Giles County showing a peak incidence of 30.8 in 1995, Montgomery County showing a peak incidence of 14.9 in 1990, Pulaski County showing a peak incidence of 20.3 in 1996, and Radford City showing a peak incidence of 43.9 in 1993. It should be noted that during the time period of 1990 - 1996, Radford City had the highest peak incidence of salmonellosis of any locality in the New River Health District. The annual peak incidences of salmonellosis in 1990, 1991, 1993, 1994, and 1996 have been consistently higher in Radford City than in the State or Nation. Of interest, Pulaski County's incidence of reported salmonellosis has been on the increase from 1994 to 1996—from a low of 2.9 in 1994 to a high of 20.3 in 1996. This represents an 86% increase in the incidence of reported salmonellosis in Pulaski County from 1994 to 1996.

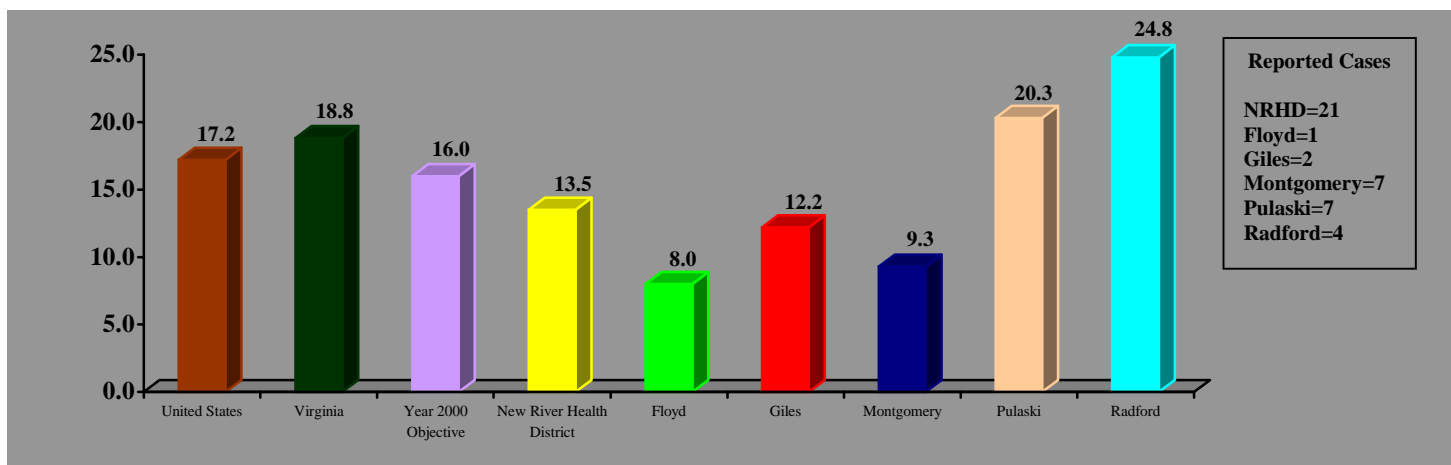
***Incidence of Salmonellosis Per 100,000 Population
United States, Virginia, New River Health District and Localities
1990 – 1996***



Source: *Reportable Disease Surveillance*, Virginia Department of Health, Office of Epidemiology, 1990-1996.
The Centers for Disease Control and Prevention website, Health Statistics section, www.cdc.gov, March 1998.

In 1996, there were 1,229 cases of salmonellosis reported in Virginia, for a rate of 18.8 per 100,000 population, as compared to a national rate of 17.2. In the New River Health District, there were a total of 21 reported *Salmonella* cases for 1996. As shown in the following graph, Floyd County had the lowest rate (8.0) with one case, and Radford City with four cases had the highest rate (24.8) of salmonellosis per 100,000 population. Pulaski County had a rate of 20.3 with seven cases, Giles County had a rate of 12.2 with two cases, and Montgomery County had a rate of 9.3 with seven cases. It is worth noting that the rate of salmonellosis in an area may serve as an indicator of food safety. Food is obtained from a variety of sources ranging from grocery stores to restaurants and hot dog stands to company picnics. Therefore, it is important to know that the food that consumers eat is safely prepared and stored. Many foodborne illnesses could be prevented by keeping your hands clean, as well as keeping cold foods cold and hot foods hot.

Incidence of Salmonellosis Per 100,000 Population and Number of Cases*
United States, Virginia, Year 2000 Objective, New River Health District and Localities
1996



* New River Health District only.

Sources: *Reportable Disease Surveillance 1996*, Virginia Department of Health, Office of Epidemiology, February 1997.
Healthy Virginia Communities, Virginia Department of Health, June 1997.

In addition to salmonellosis, other major foodborne diseases include giardiasis, campylobacteriosis, shigellosis, hepatitis A, and *E. coli*. In 1996, there were ten cases of giardiasis reported in the New River Health District. Pulaski County reported one case and a rate of 2.9, Radford City reported one case and a rate of 6.2, Montgomery County reported five cases and a rate of 6.6, Floyd County reported one case and a rate of 8.0, and Giles County reported two cases and a rate of 12.2. Giardiasis, a parasitic infection, occurs from ingestion of drinking water without a water filtration device from streams or rivers contaminated with feces and less often from food contaminated with feces. Usually there are no symptoms but, if present, may include diarrhea, abdominal cramps and bloating, fatigue, and weight loss.

There were 22 cases of Campylobacteriosis reported in the New River Health District in 1996. Giles County reported one case, Pulaski County reported five cases, Montgomery County reported 12 cases, Radford City reported four cases, and Floyd County reported no cases. Campylobacteriosis is caused by the ingestion of bacterial organisms found in food, milk, and contaminated water. It is often associated with foods, especially chicken, unpasteurized milk, and contaminated water. Symptoms include diarrhea, abdominal pain, fever, nausea, and vomiting.

Floyd County, Giles County, and Radford City had no reported cases of Shigellosis in 1996. Montgomery County reported five cases, and Pulaski County reported one case. Shigellosis, a bacterial infection, is primarily transmitted by individuals who fail to thoroughly wash their hands with soap and water after defecation. Water and milk transmission may occur as a result of direct fecal contamination. Flies may also transfer the bacterial organisms onto a non-refrigerated food item where the organism can multiply to a sufficient number to cause an infectious disease. Symptoms include diarrhea accompanied by fever, nausea, vomiting, cramps, and stools containing blood.

In 1996, Hepatitis A was reported in only one locality in the District--Pulaski County reported one case. Hepatitis A is a viral infection that is spread from person to person by the fecal-oral route. The symptoms of Hepatitis A usually occur abruptly with fever, malaise, anorexia, nausea, and abdominal discomfort. Proper washing, cooking, and handling of food will prevent the disease. Common-source outbreaks have been related to contaminated water; food contaminated by infected food-handlers, including sandwiches and salads that are not cooked or are handled after cooking; and contaminated produce such as lettuce and strawberries.

Fortunately, no health department in the District had reports of the bacterial infection *E. coli* 0157:H7 in 1996. This bacterial infection gained national attention in 1993 when it was associated with undercooked hamburgers in fast-food restaurants. *E. coli* 0157:H7 is a common bacterial infection. These bacteria can be found in the intestinal tracts of infected humans and cows and can be transferred from animal to animal, animal to man, from animal to man on food, and from person to person (particularly among children in daycare) through close contact or food. Illness from *E. coli* 0157:H7 bacteria has been caused by food including undercooked ground beef, roast beef, raw milk, improperly processed cider, contaminated water, mayonnaise, cantaloupes, vegetables grown in cow manure, and salami (a dry sausage). Outbreaks have also started in cross-contamination at food service outlets--delicatessens, grocery carryouts, and salad bars. The organism has been found in ground meat especially from dairy herds and processed milk products. Thorough cooking of ground meat to at least 160° F. will destroy the *E. coli* bacteria.

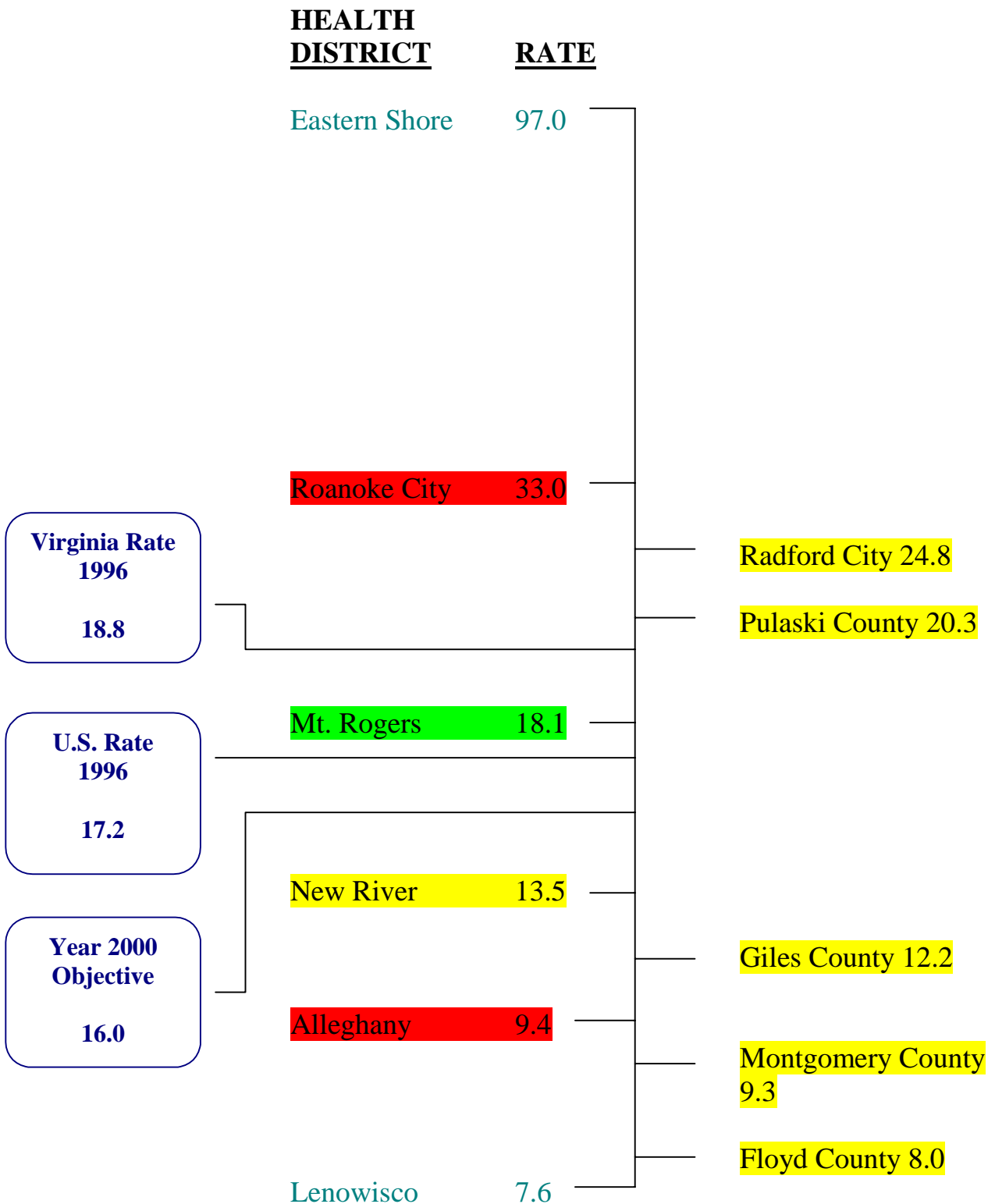
Food establishments are routinely inspected by the health departments of the New River Health District. Environmental Health and Food Safety Specialists ensure that proper operation and maintenance procedures are followed. Also, food handlers are encouraged to attend an educational session that includes a video, lecture, and written test on the sanitary handling and preparation of foods. Disease incidence may be reduced, not only by food handlers, but also by all consumers, through the proper use of food handling techniques and through careful attention to hygiene in order to prevent the spread of disease from person to person.

Public education to consumers and food service professionals about proper food preparation and food handling is crucial. Adequate handwashing, safe food handling preparation, and thorough cooking of food will prevent disease. These efforts will reduce the number of outbreaks, as well as individual cases. Investigations of foodborne diseases have repeatedly shown that many consumers do not understand the hazards or do not take precautions to reduce their risks.

What you can do:

- ❑ **Wash your hands thoroughly with soap and water after using the bathroom!**
- ❑ **Keep food stored properly.** Bacteria will not grow rapidly if food is kept below 40° F. or above 140° F.
- ❑ **Some foods must be cooked at high temperatures to kill germs.** Cook poultry and stuffing to at least 180° F.; lamb, beef, hamburger, and other ground meat products to 160° F.; pork to 150° F.; and seafood to 140° F.
- ❑ **Rapidly reheat food to a minimum of 165° F.**
- ❑ **Do not buy food that is past its expiration date.**

Incidence of Salmonellosis Per 100,000 Population
Selected Health Districts, New River Health District and Localities
1996



Delivery of Influenza and Pneumococcal Vaccine to the Elderly

Objective: Increase levels of pneumococcal pneumonia and influenza immunization among noninstitutionalized high-risk populations to at least 60%.

Influenza is referred to as the “flu.” It is a viral disease that can affect people of all ages. The “flu” season typically runs from late December through early March. Influenza or “flu” is highly contagious and is spread by direct contact with an infected person or through contact with the airborne virus in crowded places. Although most people are ill for only a few days, some, particularly the elderly, have more serious complications that may lead to hospitalization, disability, and death. Influenza is responsible for 20,000 deaths in the United States each year, and 500,000 Americans have died as a result of influenza epidemics over the last 20 years. Eighty to ninety percent (80% - 90%) of these deaths occurred in persons age 65 and older. Influenza vaccinations could reduce this risk by as much as 75%, but only about 30% of eligible people receive the influenza vaccination each year. Influenza vaccine is about 60% - 80% protective in preventing illness, hospitalization, and death in older persons. The influenza vaccine can be given at the same time as any other vaccines, including pneumonia. The viruses that cause influenza change often; therefore, it is necessary for those at risk to get a flu shot every year. Vaccinations should be received early in the flu season, preferably in October or November of each year, and take one to two weeks to provide protection. Influenza vaccination is safe and reduces death and disability, hospitalizations, and costs, and is covered by Medicare.

Pneumococcal disease is caused by bacteria that can lead to serious infections of the lung (pneumonia), the blood (bacteremia), or covering of the brain and spinal cord (meningitis). It accounts for an estimated 40,000 deaths annually in the United States with the elderly being at highest risk both for hospitalization and death from the disease; however, only about 14% of persons over age 65 have been vaccinated. Pneumococcal vaccine has been available since 1977, with an improved 23-valent version available since 1983. The vaccine contains materials from the 23 types of pneumococcal bacteria that cause 88% of pneumococcal infections. It is 60% - 70% effective in the elderly, and most healthy adults who receive the pneumococcal vaccine develop protection against most or all of the 23 types of pneumococcal bacteria within two to three weeks of vaccination. The pneumococcal vaccine can be given at any time of year and may be given at the same time as the flu shot. The protection provided by the vaccine persists for up to nine years or more; thus routine universal revaccination is probably unnecessary and is not recommended for healthy elderly persons. Revaccination every six years should only be done for those at highest risk of pneumococcal infections (such as those who are immunocompromised) and for those people age 65 and older who got their first dose when they were under 65, if six or more years have passed since that dose. Pneumococcal vaccination is safe, prevents death and disability, hospitalizations, and costs, and is covered by Medicare.

Influenza and pneumonia immunization levels among the noninstitutionalized high-risk populations of the New River Health District and its localities, and Virginia, are not available. However, national studies reveal that only 30% of eligible people receive the annual influenza vaccine.

During “flu” season, local health departments conduct active influenza surveillance using selected physicians from around the State who report cases of influenza-like illness on a weekly basis. Cases are tabulated weekly and the information, along with laboratory identification of viral agents, is used to monitor and define influenza activity in Virginia. Influenza incidence throughout the State for calendar

year 1996 ranged from a low of 0.1 case per 100,000 population in the Northern (health-planning) Region to a high of 45.6 per 100,000 population in the Southwest Region. In 1996, Virginia had a total of 957 cases of influenza reported (14.6 per 100,000), compared to 1,484 cases in 1995 and 957 cases in 1994.

Physicians and laboratory directors are advised and encouraged to report any influenza-like illness throughout the year. Interestingly, there were no cases of influenza officially reported to any of the five local health departments in the New River Health District during 1995 and 1996; however, “flu”-like illnesses did exist across the District. This information confirms that the actual count of influenza activity is not accurately reflected during this period due to reporting methodology. In other words, infectious diseases such as influenza continue to be under-reported.

Influenza vaccine campaigns target persons who are at high-risk for influenza-associated complications. Successful vaccination programs in the District during the months of October and November have included routine vaccinations of residents in residential long-term-care facilities, mass immunizations at seniors centers and of employees at work-sites, and the popular “drive-thru” clinic held for the first time, October, 1995, in Montgomery County. Local health departments in the District continue to educate the residents on the importance of receiving an annual influenza vaccine, as well as encouraging high-risk individuals to receive a pneumonia vaccine which should give lifelong immunity.

What you can do:

If you answer yes to any of these questions, then you need a flu shot every year. . .

- ☐ **Are you 65 years of age or older?**
- ☐ **Do you have diabetes, asthma, chronic disease of the lungs, kidneys, heart, chronic anemia, or a disease that may interfere with your body’s immune system?**
- ☐ **Are you immunocompromised or on chemotherapy?**
- ☐ **Are you a resident or employee of a long-term care facility?**
- ☐ **Are you a health care provider including home care?**
- ☐ **Are you a household or family member caring for a chronically ill person?**
- ☐ **Are you a provider of essential community service (e.g., public safety worker, teacher)?**
- ☐ **Will you be traveling to a foreign country?**
- ☐ **Do you wish to reduce the likelihood of becoming ill from influenza?**

Get pneumococcal vaccine if:

- ☐ **You answered yes to any of the influenza questions, or if you have had your spleen removed, or have had an organ transplant.**

Summary

The New River Health District has a profound commitment to ensure a healthier future for our community. The District is investing in efforts to fight communicable diseases by involving community partners, ranging from families and schools to faith communities, government officials, and health professionals. More importantly, the New River Health District is raising public awareness of the dangers associated with communicable diseases and the measures that we can take to protect ourselves.

The top five communicable disease issues in the New River Health District include immunizations, sexually transmitted diseases, foodborne illnesses, tuberculosis, and influenza and pneumococcal disease. There are numerous success stories at the local area including the elimination of childhood diseases such as smallpox and polio to the successful annual influenza and pneumonia vaccine campaign. At the same time, there are persistent problems that demand the continued vigilance and unique competence of public health.

Immunizations are the key to healthy children. Parents must be encouraged to have their children immunized on time. Children need 80% of their immunizations in the first two years of their lives. The Year 2000 Objective is that 90% of the children will receive recommended vaccines during the first two years of life.

The New River Health District must continue to aggressively educate parents on the importance of timely immunizations and must pursue the development of a reporting and tracking system within our District that will enable health care providers to accurately determine immunization levels of our children.

Many serious complications result from sexually transmitted diseases. Human immunodeficiency virus (HIV) is an extremely serious communicable disease that historically has been linked with STDs and high-risk behavior such as intravenous (IV) drug abuse, unprotected sex, and multiple sexual partners. At least 50% of persons with HIV infection who are not treated will develop acquired immunodeficiency syndrome (AIDS) within 10 years of infection. Although some drugs may extend life, there is no available cure for HIV infection or AIDS. The Virginia Department of Health began tracking AIDS cases in 1982 and reported HIV infections in 1989. In 1996 in the New River Health District, the reported number of HIV cases was two reflecting a rate of 1.3 per 100,000 population, and the reported number of AIDS cases was eight reflecting a rate of 5.2 per 100,000 population. These rates were well below the Year 2000 Objective of 11.9 per 100,000 population. HIV infection and AIDS will continue to make major demands on the health care system for years to come. Since there is no cure for AIDS, the major priority of the health care system must be to stop the spread of HIV infection. Because many HIV infected persons appear well and do not realize they carry the virus, education, counseling, and testing for the public is a priority. The New River Health District is committed to providing accurate information about HIV and AIDS to the community. Each of the five local health departments in the District continue to offer HIV counseling and testing not only to high-risk groups but also to the general public.

Sexually transmitted diseases affect approximately 12 million Americans a year. The commonly known STDs--syphilis, gonorrhea, and chlamydia--tend to affect young people, those with low income, and minorities at a larger, disproportionate rate. With regard to syphilis, the New River Health District is ahead of the Year 2000 Objective of reducing primary and secondary syphilis to an incidence of no more than four cases per 100,000 population. There were four reported cases of syphilis in the District for 1996. Surprisingly, the number of reported gonorrhea cases in the District was also below the Year 2000 Objective of no more than 100 cases per 100,000 population. In 1996, New River Health District had a rate of 20.0 per 100,000 population. This is a much better picture than the Virginia rate of 141.8 and the U.S. rate of 122.8 cases per 100,000 population. Chlamydia was the most reported communicable disease in Virginia and the New River Health District in 1996. There were 136 cases of chlamydia reported in the New River Health District in 1996 with an incidence of 87.6. This incidence was lower than that of Virginia (179.4) and the Nation (194.5).

The availability of STD services is essential in the prevention and treatment of these diseases. Each health department in the District offers confidential counseling, testing, education, investigation, and treatment of persons with STDs. Public health officials work closely with private physicians in the New River Health District to ensure that there are appropriate and available STD services for all infected persons. Screening tests and treatments are available; however, behavioral risk reduction is essential and an important component to keep the New River Health Department numbers below the Year 2000 Objective.

Tuberculosis is threatening vulnerable populations in cities across the Nation; however, in New River Health District, the 1.9 rate per 100,000 population is below the Virginia rate of 5.3 and the United States rate of 8.0 per 100,000 population. The Year 2000 Objective is to reduce tuberculosis to an incidence of no more than 3.5 cases per 100,000 population. The New River Health District will strive to remain below the Year 2000 Objective by continuing to provide leadership to the community in the area of tuberculosis control. Health departments in the District offer testing in residential settings such as nursing homes, adult homes, substance abuse treatment centers, and migrant work sites. The District is continually re-examining strategies for the prevention and control of tuberculosis in high-risk populations. The health departments in the New River Health District offer prompt surveillance, contact tracing, and education. These broad outreach activities have and will continue to control the spread of this highly infectious disease.

Foodborne illness has become one of the fastest growing community health problems in the United States. In 1995, the New River Health District had 21 cases of Salmonella reported. In order to meet the Year 2000 Objective of reducing the incidence of salmonellosis to no more than 16 cases per 100,000 population, efforts must be in place that are geared towards simple, commonsense practices that can reduce one's risk from foodborne threats. These practices include education on safe food shopping, safe food handling, and safe food storage.

The New River Health District has an epidemiological team that ensures all relevant infectious diseases are investigated and that proper procedures are in place to respond promptly and appropriately to control the spread of foodborne illness. The public looks to the health departments in the District for general advice about foodborne disease threats. Our Health Director has proactively established and maintains an effective linkage with the media by ensuring prompt, credible responses about infectious disease and preventive practices that safeguards the public's health. These public health efforts will continue to make a profound impact on strengthening our strides towards reducing the number of foodborne infections.

Pneumonia and influenza are two of the major causes of respiratory illness in the United States. These diseases are particularly severe in the elderly persons and those individuals who have chronic illnesses. Our community has an excellent record for increasing awareness on the importance of influenza and pneumococcal vaccines for those who are at risk and those who simply want to lower their chances of acquiring these diseases. To reach the Year 2000 Objective of increasing levels of pneumococcal pneumonia and influenza immunization to at least 60% among noninstitutionalized high-risk populations, the community needs to continue to offer community-wide initiatives to get more people vaccinated. Also, reporting methodology must be improved to identify the incidence of disease in this area.

Americans have always been in the vanguard in the fight against disease, but we cannot afford to let our past success make us complacent. The fight against infectious disease must include many community partners, ranging from families and schools to government officials and health professionals. To this end, the New River Health District will work towards ensuring that all relevant infectious diseases are reported. Efforts will continue to provide health education to enhance the diagnosis, treatment, and prevention of infectious disease. More importantly, the community will continue to raise public awareness on the dangers of infectious disease and the measures that will be necessary to protect individuals and communities.